UNITED STATES OF AMERICA

DEPARTMENT OF ENERGY

PUBLIC MEETING

ENERGY CONSERVATION STANDARD

NOPR FOR TEST PROCEDURE FOR DISHWASHERS,

DEHUMIDIFIERS AND CONVENTIONAL COOKING PRODUCTS

U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
Room 8E-089

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Chair:

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Department of Energy

Facilitator

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I N D E X

I N D E X (Cont'd.)

P R O C E E D I N G S

9:00 a.m.

WELCOME

MR. BROOKMAN: So, good morning, everybody and welcome. This is the U.S. Department of Energy's Public Meeting on Energy Conservation Program for Consumer Products: Test Procedures for Dishwashers, Dehumidifiers and Conventional Cooking Products. Today is Friday December 17th, here at the U.S. Department of Energy. My name is Doug Brookman, Public Solutions in Baltimore and Wes Anderson from the Department of Energy wishes to make welcoming remarks.

MR. ANDERSON: Good morning, everyone. My name is Wes Anderson. As Doug said, I'm with the Department of Energy and we are here to -- I'm here to welcome you here on this cold and blustery morning.

For those who are out of town, this is our first snow of the season and we handled it pretty well. So let's hopefully that will transition to this meeting and it will flow smoothly.

This is primarily set up to be a conversation between the Department of Energy and the interested parties on the subject matter. We look forward to your questions. We will be posing

questions throughout the meeting and asking for comment and we will also look to hear your opinion on certain things. And we will also give your our insight on where we're going and how we got to where we are.

And with that, I would like to turn it back over to Doug.

OPENING REMARKS, INTRODUCTIONS, AND AGENDA REVIEW

MR. BROOKMAN: Thank you. So glad you could join us. Let's start with introductions. That's our typical form. Let's start over here with Joanna.

MS. MAUER: Joana Mauer, Appliance Standards Awareness Project.

MS. WALTNER: Meg Waltner, Natural Resources Defense Council.

MS. CLEARY: Jennifer Cleary, Association for Home Appliance Manufacturers.

MS. MILESI: Natascha Milesi-Ferretti, National Institute of Standards and Technology.

MR. WARNER: Brian Warner, BSH Home Appliance Corporation.

MR. EDWARDS: Mike Edwards from BSH Home Appliance Corporation.

MR. STAS: Eric Stas, DOE General Counsel's Office.

MR. BROOKMAN: Wes introduced himself. Judy.

MS. REICH: Judith Reich, Navigant Consulting.

MR. WATSON: Troy Watson, Navigant Consulting.

MR. BATTAGLIA: James Battaglia, Navigant.

MR. BOWLEY: Brice Bowley, General Electric.

MS. STEVENS: Amanda Stevens, EPA ENERGY STAR.

(Mr. Eric Jones of Energetics is the webinar moderator, but did not introduce himself. We will hear him interjecting throughout the presentation)

MR. BROOKMAN: Let me invite the two of you, if you wish to, to try to sit at the table. It's up to you, wherever you would prefer to sit.

So glad you could join us. I'm going to run through the Agenda very briefly. Immediately following this agenda review there's an opportunity for anybody that wishes to do so to make brief summary remarks here at the outset concerning key issues and concerns that you may have. Immediately following that, Wes Anderson is going to take us through a background under legal authority for this proceeding. And then from there we will go into the more detailed,

substantive content of the day.

All of you received a packet of information when you came in the door this morning, the PowerPoint slides that will be presented as well as the Federal Register notice. I think most of you are familiar witness that the way this works. We use the PowerPoint slides as the focal point for both presentation and for cuing discussion. There are comment boxes interspersed throughout for that purpose.

And after Wes' comments we are going to hear about covered products, incorporation by reference of IEC Standard 62301 (First Edition) and determination and classification of operational modes. All of you have a copy of this agenda, I believe.

We'll take a break midmorning-ish, right about 10:45 or so and then specifications for test methods and measurements for standby and off-mode testing.

Immediately following that calculation of energy use associated with standby mode and off mode.

We'll break for lunch today around about noon or so and then measures of energy consumption, compliance with other EPCA requirements and impact of the proposed amendments on EnergyGuide and ENERGY

STAR. And at the end of the day today, whenever that might be, there is yet another opportunity for anybody that wishes to do so to make summary remarks to raise any other issues that haven't been raised sufficiently. So there is yet another opportunity for you to do that.

The timing in the agenda suggests we're going to adjourn today at 2:15. It's possible that we'll get out of here even earlier than that. But we'll just do the timing efficiently as we go along. At least that's the plan.

Questions and comments about the agenda?

(No response.)

MR. BROOKMAN: Then I'd ask for your consideration -- I'd ask, please, if you would, speak one at a time. Please say your name for the record each time you speak. You don't need to say your organization affiliation every time unless you wish to. There will be a complete transcript of this meeting and it will be posted on the EERE website and also on Regulations.gov. Is that where they're posting them now? I think. I think that they're making that transition, I think.

I'm going to be cuing individuals to speak by name. I also wish to encourage follow-on comments

so that we have the back and forth. Sometimes that's very helpful for the Department to hear differing perspectives. It informs their decision making process.

If you could keep the focus here, please turn your cell phones on silent mode, limit your sidebar conversations and in order to speak you need to turn on your microphone. The little green LED button needs to be lit up. And if you could try and be concise, share the airtime, that will be helpful. There's a lot to be said, I'm certain.

Questions and comments here before we proceed?

(No response.)

MR. BROOKMAN: As I understand it, we have a webinar going now. The Department is trying to make web access available to anybody who wishes to call in. Do we have some folks?

Mr. Jones: Yeah, we have ten people.

MR. BROOKMAN: Ten folks. Well, those of you who have joined us via the web, welcome.

In this format there is the potential for those that are participating via the web to send questions to our web moderator. And so if you have questions as we're going along, please send them and

we'll do the best we can to insert them and answer them during the course of the proceedings today. I think that's all that we need to cover here at the outset.

There now is an opportunity for anybody that wants to, to make opening remarks summarizing issues that they wish to carry forward. Jennifer.

MS. CLEARY: Jennifer Cleary. First I'd like to thank the Department of Energy for accepting comments and hosting this meeting today. We appreciate the opportunity to give our feedback. However, there are a number of instances in this rulemaking where DOE seems to be acting without sufficient or any data. The test procedure is intended to be representative of consumer use. Without data showing what is representative of consumer use DOE has no reasonable basis upon which to act and under no circumstance should DOE act on its own belief about consumer usage.

We certainly understand that DOE is in a challenging position trying to carry out its statutory mandate, but if there's no data available no action can be taken. Acting without data is unreasonable and arbitrary and we will certainly provide more detailed comments later today in our written comments, but felt

that was an important sentiment to share at the beginning.

MR. BROOKMAN: Okay. Do you have data that you can help to supplement DOE's sources?

MS. CLEARY: We may have data on some points, we don't on others. But the main concern is that even if no one can provide that data, if the data doesn't exist, there's no reasonable basis upon which to act unless that data is collected.

MR. BROOKMAN: Okay. Other comments here at the outset?

Yes, Wes Anderson

MR. ANDERSON: Can you at least point out where you specifically think --

MR. BROOKMAN: Well, let's do it through the course of the meeting.

MS. CLEARY: Yeah, we absolutely will today and in our written comments.

MR. BROOKMAN: Good. Okay. That's good.

Other comments here at the outset?

(No response.)

MR. BROOKMAN: No additional comments, none from industry. No. Okay.

So, Wes, then let's go through the background and legal authority.

BACKGROUND AND LEGAL AUTHORITY

MR. ANDERSON: Again, welcome. My name is Wes Anderson. I'm with the Department of Energy. We are at the NOPR presentation for today which we published the NOPR on December 2nd of this year and today's the 17th where we're having the meeting. We'll be looking for your comments and input. As Doug said, there will be a transcript available of today's meeting. Also available to the public will be your written comments.

The comment period closes in 75 days from the publication date, from December 2nd which was February the 15th -- which is February the 15th, 2011. So, please make note of that.

DOE will review and consider all your comments for the final rule publication.

Today we are going to cover -- I'm just going to give an overview of what we're going to talk about. For products covered in the proposed amendments, we're going to look at what the specific products are, dishwashers, dehumidifiers, and conventional cooking products, and the subcategories within that. And we'll give a definition so it will be clear what we're talking about and we can also actually input on that. And we're not proposing any

changes to definitions at this point. And we haven't heard of any concern at this point as well.

Then we're going to incorporate by reference of how we're going to incorporate by reference the IEC Standard 62301 first edition for measuring standby and off mode power consumption and how it relates to those three subjects and what we'll take directly from publicly available information which is first edition and we'll discuss what's in development with IEC's final draft.

Part three is to determine and classification of operation modes which we'll go into detail on mode definitions, talk about how DOE has developed or derived these modes, or how we define these modes. The difference in the modes in principal between active, standby, and off mode and then we'll apply that definition or explanation to the specifics of the products and how active, standby, and off mode affects each one.

We'll also talk about some other modes, the more complicated modes or esoteric modes that are further down the line and looking for your input on that piece.

Section four, the specification for the test method and measurements for standby mode and off mode

testing. We'll be talking about power stability and a description of that. We'll talk about the big power hogs in the equipment which will be driving some of the testing procedure and we'll talk about the testing environment how the room -- the external environment in which the product will be tested and how to deal with unstable power situations. And we'll talk about how to deal with some of the comments and/or waivers that have been brought up.

For Section five, calculation of energy use associated with standby mode and off mode. There we'll discuss how DOE calculates is annual energy usage number, what we think these numbers are for the different products. We'll point out where we need your help on that and for instance for conventional cooking products, we'll talk about active, standby, delay start, cycle finish, those kind of things to clarify the discussion there.

And in Section six what we'll talk about measurementmeasures of energy consumption. We'll go over legal justification for that and how existing measures will be combined with -- how the active, standby and off mode will be combined into an annual number. Where in Section 5, we'll be specifically talking about the individual products.

So in Chapter 7 -- in Section seven we will -- compliance with other EPCA requirements which will be the test burden or potential for incorporating IEC 62087 and where we combine for dishwashers the estimated annual energy use, or the estimated annual operating costs and for dehumidifiers, the integrated energy factor. And for conventional cooking products, the integrated annual energy consumption number and the integrated energy factor.

And we'll also talk about how the test procedure will impact FTC's in Section 8 -- impact FTC's EnergyGuide requirements and ENERGY STAR power requirements. And with that we will start with Judy -- I'll do this one as well.

This is where the regulatory information is located in the 10 CFR 430, Subpart B, Appendix C for dishwashers; for conventional ranges or cooking products it will be in Appendix I and for dehumidifiers it's in Appendix X. All of that is in Section -- in 10 CFR Part 430, Subpart B.

The Energy Independence and Security Act of 2007 or informally known as EISA 2007 amended EPCA to direct(ed) DOE to amend the test procedures for dishwashers, dehumidifiers and conventional cooking products to integrate measures of standby, off mode

energy consumption. And the publication of the final rule should be no later than March 31st, 2011.

With that we'll start with the first section, products covered by the proposed amendments by Judy Reich.

Covered Products, Incorporation by Reference of IEC Standard 62301 (First Edition), and Determination And Classification of Operational Modes

MS. REICH: Good morning, everybody. I'm Judith Reich from Navigant Consulting and I will be talking about the proposed amendments to the test procedures and covering the analysis that's supporting those amendments. So to set the stage for the discussion, I'll start off by reviewing the definitions for products that are covered in this rulemaking. And as Wes mentioned, these are codified in the CFR, specifically at Part 430.2. And I won't read through each one of these individually, but it's important to note that for dishwashers and dehumidifiers these definitions broadly cover all of the classes that exist currently. For dishwashers that would be standard size and compact size and dehumidifiers, units of varying capacity.

For cooking products the definition covers those that are designed to cook or heat food by one or

more of the sources of heat which include gas, electricity, and microwave energy.

For this rulemaking we're looking at conventional cooking products. So that would be those products that are using gas or electricity. Microwave cooking products are covered in a separate ongoing test procedure rulemaking.

Conventional cooking products are disaggregated into three types. The definitions include a conventional cooking top which is the horizontal surface containing one or more surface units with either gas flame or electric resistance heating; conventional ovens consist of -- it's a class that includes ranges and ovens in which the food is heated in a compartment either by a gas flame or electric resistance heating. And a conventional range is simply a combined unit that includes both a cook top and one or more conventional ovens.

As Wes mentioned, the proposed test procedure amendments would not include changes to these product definitions. So although we don't have a specific request here for comment, I will open it up if anybody has a comment on these definitions.

MR. EDWARDS: How do the other, like double ovens and things like that --

MR. BROOKMAN: Would you say your name for the record, please?

MR. EDWARDS: Mike Edwards, BSH Home Appliances.

MS. REICH: Uh-huh.

MR. EDWARDS: How will double ovens and other combo products like that be considered?

MS. REICH: The test procedure already includes provisions for multiple ovens within the same product. So they're already covered.

MR. BROOKMAN: Yes, Amanda.

MS. STEVENS: Could you speak to the coverage of induction cook tops?

MS. REICH: Yes, right now the test procedure does not cover them. The methodology that's included now utilizes an aluminum test block to measure the heat transfer to it. And so, of course, for an induction system, it doesn't work. There's no energy imparted to it. So there has been some work previously to develop methodology to accommodate that. But at this point that has not been incorporated in the test procedure and for the purpose of today's rulemaking, the amendments were focusing on standby and off-mode energy use. So there was not an attempt to address the active mode portion.

MR. BROOKMAN: Other questions on definitions? Mike?

MR. EDWARDS: Mike Edwards, again. The consumption of microwave and microwave oven combinations, is that also specified in the procedure?

MS. REICH: Right now for active mode it is not. There was a recent repeal final rule that was issued that removed those provisions because of some inherent problems with them. DOE is currently considering whether to develop new active mode provisions, but right now there are none. There is a -- as I mentioned -- an ongoing rulemaking that would address standby and off mode energy for microwaves.

MR. BROOKMAN: There is a lot in these first few slides here, so maybe you could just scan back through and make sure you got your questions answered before we move on.

(Pause.)

MR. ANDERSON: This is Wes Anderson, Department of Energy. I think that was Judy's subtle way of saying that if we could focus our questions on standby and off mode at this point it would kind of speed us through this process. And if you have comments or questions about active mode issues, please submit them. But we want to limit our conversation to

standby and off mode.

MR. BROOKMAN: Additional questions?

MR. ANDERSON: Or how active mode relates to those two things.

MR. BROOKMAN: Then let's proceed.

MS. REICH: The next section will discuss the incorporation by reference of IEC Standard 62301, specifically the first edition for the purposes of measuring the standby and off-mode energy use.

So the Energy Independence and Security Act of 2007 or EISA amended the Energy Policy and Conservation Act to require that the test procedures for certain products be amended to address the issue of standby and off-mode energy use and that DOE should take into consideration the most current versions of two international standards from the International Electro Technical Commission, specifically standard 62301 and 62087. 62301 covers standby power in residential appliances. IEC 62087 addresses video and audio equipment and related products. So, it was determined that that is not applicable to this rulemaking. So, the discussion today is going to focus on 62301.

DOE is proposing to incorporate certain provisions from the first edition of 62301 that are

listed here. These are conditions in methodology that provide clarification or additions to the test procedure to allow for measurement of standby and off-mode power. And you can see they generally relate to test conditions, specifically test room ambient conditions, the waveform for the supply voltage and the accuracy of the metering equipment used to measure the power.

In terms of the methodology, the measurements from Section 5, the reference first would be to a general note on measuring the power if it drops from a higher power state to a lower power state; it would be taking the measurement at the lower power state.

Section 5.2 discusses the test set up and in particular this is going to relate to default settings for setting up the equipment. And finally, Section 5.3 is the actual methodology that would be used to measure standby power and this accounts for situations where the power consumption is stable. And it also covers situations where the product has power consumption that varies over time.

DOE is aware that the IEC is in the process -- well into the process of updating standard 62301. It is going to be -- the next version will be labeled

as the second edition. And based on the draft versions that have been released, it is expected that the second edition is going to include some additional mode definitions in addition to standby mode. In particular it's likely that it will include an off-mode definition, network mode, and disconnected mode as well as revising what the current definition is for standby mode.

However, the IEC has not yet published a final version of this second edition and therefore DOE has made the determination that the current version that's available for consideration or incorporation by reference is still the first edition.

However, in order to provide the best possible analysis, DOE has reviewed the two most recent draft versions of the second edition and these are entitled -- the first of those was the Committee Draft for Vote or CDV and then the most recent one which followed that the Final Draft International Standard which we'll refer to as the FDIS.

Because of the status of the FDIS as very late in the process, DOE anticipates that when the second edition is issued that the mode definitions are going to be similar to those that are included in the FDIS. And so therefore DOE has considered mode

definitions from that version in today's rulemaking. And I think it's important to clarify that it's looking very narrowly at the mode definitions from this draft version on the basis of substantial comments and input that it has received from interested parties on other similar recent rulemakings.

Two of these covered products already do include some measure of standby power in the test procedures, specifically dishwashers and conventional cooking products. The dishwasher test procedure, the provisions that are currently in place to measure standby power are very similar to what is included in IEC 62301, the first edition. It's a single measurement of a standby power. So it doesn't allow for the possibility that there may be multiple standby modes, nor does it address the situation of an off mode. So DOE is proposing to amend the dishwasher test procedure to include these new definitions for standby, off, and I think that should say "active mode" based on the definitions within the FDIS as well as what was in the table that I first showed, the testing clauses from the first edition.

For cooking products, there is a limited measure of standby power right now in the form of the

annual energy consumption for a clock, but no other standby mode or off mode energy consumption. So, again, the proposed amendments would include definitions that would fully account for the possibility of multiple standby modes and off mode.

At this point DOE would like to receive any comments of the adequacy of IEC's standard 62301 for measuring standby and off mode power in the three covered products and on the suitability of incorporating the specific clauses into DOE regulations.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary, AHAM. AHAM urges DOE to reference the second edition FDIS as the main document instead of the first edition, as we've commented previously, that version will soon be formally adopted by IEC just as it is, you know, currently in the draft, that will not change. It contains a number of important clarifications that are not present in the first edition or even in the CDV version. And we think that adopting the FDIS will allow for optimum international harmonization which will give clarity and consistency to the regulated parties and will certainly provide some more detail on how we think DOE can do that and where we specifically

think they should.

In addition, we do appreciate that specifically with regard to the definitions in some other areas that you have looked at the FDIS and incorporated that. We think that's certainly an improvement. But I think we need to go a little bit further to address the holistic intent of the standard 62301 (sic).

MR. BROOKMAN: Do you know what the timetable is for the second edition?

MS. CLEARY: The timetable seems to be hard to tie down, but, you know, very soon, we are hoping.

MR. BROOKMAN: I see. Okay. I'm wondering how that fits with DOE's needs to press on with this proceeding then. That's my only question. I guess it's up in the air. Wes?

MR. ANDERSON: I would just like to remind everybody that we're trying to get this out the door published by March -- the end of March next year. So DOE is sort of limited as to what it can do for nonpublic documents.

MR. BROOKMAN: So that is if the second edition hasn't been adopted formally yet, then DOE can't incorporate it formally by reference or something like that?

MR. ANDERSON: Not by reference, no.
MR. BROOKMAN: I see. Okay. Eric Stas.
MR. STAS: Eric Stas, DOE. So in your comment, you know, try to be very specific. If this thing isn't formally adopted yet, things that you would like to see incorporated in our regulations to capture the most important elements.
MS. CLEARY: Yeah, I will certainly do that where it's possible. I think part of our comment here is that it's very hard to pick and choose which sections you use because the standard is intended to be read as a whole. And so when you start to just pick certain sections out that causes problems in how they're interpreted because picking out, for example, a definition from the FDIS and then combining that with incorporation by reference to the first edition, it doesn't really match up. And so that's really why we're making the comment that perhaps the interpretation of current edition should be different.
MR. BROOKMAN: Yeah, I was trying to remember who was here the last time we did this talking about the IEC process and how it kept -- that was a lengthy description. It just seems like it's hard to cause the IEC process to accelerate.
MS. CLEARY: Right. But it is. And it's

final right now. This draft is being voted on and there are certain rules in the voting process that make it fairly clear that this -- you know, is as it is. So we'll provide more detail. We don't want to extend this, you know. We've made these comments before.

MR. BROOKMAN: Okay. So there is a request for other comments on the adequacy of the IEC standard. Other comments on this?

(No response.)

MR. BROOKMAN: I see no additional comments. Okay.

MS. REICH: Okay. The next topic I will cover is how these mode definitions are applied to the products and classification of operational modes within those definitions. So, EPCA, as modified by EISA, provides definitions itself for active, standby and off mode. And IEC standard 62301 contains an additional definition for standby power. And these definitions are intended to be very encompassing and broadly applicable to all types of products. So that can lead to multiple interpretations for a given product.

I think we've covered in detail that this second edition draft, FDIS version, is available. And

the definitions that are within there are expected to remain largely similar when a second edition comes out.

So, again, for reasons that the draft has been available for DOE to receive comment on for some time now and DOE has received inputs from multiple parties on it, DOE was considering that portion of the FDIS in determining mode definitions for its amended test procedures.

So the amendments are proposing to use the definition in the FDIS as a starting point but provide additional clarification to apply those modes specifically to the dishwashers, dehumidifiers, and cooking products.

So let me start off with the definition being proposed for active mode. And that is the condition in which the energy using product is connected to power, has been activated and provides one or more main functions.

In a previous draft version, the Second Edition Committee Draft Two, there was an additional clarification that delay start mode is a one-off, user-initiated, short-duration function associated with active mode. And DOE noted that this clarification or this note was removed in the FDIS.

And the FDIS now classifies delay start as a secondary function that is not part of active mode.

However, because delay start is of finite duration, limited duration, and it is uniquely associated with the initiation of a main function, DOE believes that it should indeed be considered as part of active mode which is something that we'll get into in a moment.

To clarify the definition of active mode for dishwashers, DOE is proposing to define active mode as the dishwasher is performing the main function of washing, rinsing, or drying, when such a drying process is included, the various dishware and utensils by chemical, mechanical and/or electrical means or is involved in the functions necessary to provide those main functions which would include admitting water into the dishwasher or pumping water out of it.

To clarify what active mode means for conventional cooking products, the proposed amendment would be that it is a mode in which either a conventional cooking top, oven, or range is performing the main function of cooking, heating, proofing, or holding a cooking load by means of either the gas flame or electric resistance heating.

For dehumidifiers the clarifications would

cover three main functions, specifically removing moisture from the ambient air by drawing that air across a refrigerated coil. A similar process in which the air is circulated with a fan, but the refrigeration system isn't activated, so it's only for the purpose of circulating the air.

And then third is a function in which if ice builds up on the coil that there would be a periodic activity to defrost the coil.

Now, for standby mode DOE is proposing to define it as a mode in which the product is connected to the power source and it includes one or more of the following functions, and a key element to this definition is that these functions may persist for an indefinite time. The first function would be to facilitate activation of other modes, either activating or deactivating active mode, by remote switch which would include the use of remote control, an internal sensor or a timer.

Standby mode would also include a continuous function such as information or status displays and that would include any clock or senor-based functions such as a cooking sensor.

DOE would also clarify that a timer doesn't necessarily have to be limited to an external clock or

other display that's observable by the consumer. It can also be an internal timer in which the components on the control board are providing switching of regularly scheduled tasks, but it would be happening on a continual basis.

So it's important to note that that standby mode definition is different than what is in the current dishwasher test procedure. That definition was very similar to the one that was provided in 62301 first edition, that was simply a single measurement that was taken at the lowest possible power state. DOE proposes to retain that definition that's in the dishwasher test procedure and rename it as a simplified standby mode for the purposes of continuing to still provide the appropriate metric for the existing energy conservation standards until any amended standards for dishwashers take effect.

Again, multiple modes under this new proposed definition for standby can be considered and a standby mode that is sort of common to all of the products would be something defined as inactive mode in which the product is in a mode in which it could be activated back to active mode by remote control or an internal sensor or timer, a soft power switch, for example, or one that provides a continuous status

display.

Off mode is a mode which DOE proposes to define as a situation where the product is, again, connected to power and is not providing either an active or standby function. Again, off mode would be a situation that may persist for indefinite time.

An important clarification that DOE proposes to add is that if there is an indicator such as a light that is provided on the product whose only purpose is to show the user that the product is in an off position, but is connected to power, it would still be included as an off mode.

Also, DOE believes that a product that is equipped with a hard on/off switch that could disconnect the power to the display or control components would be considered to be in off mode when the switch is in the off position as long as there's no other function taking place that would classify it as a standby or active mode.

So, DOE believes that these definitions are applicable to all of the products under consideration but that there are some additional modes that are specific to each product that DOE looked at in detail.

Before I move on to those, I would like to invite comment on the proposed definitions of standby

mode, off mode, and active mode based on the definitions within the FDIS.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary. As you mentioned in your slides, DOE is proposing to define standby mode based on the FDIS version. We support that definition. AHAM does propose, however, by way of clarification that DOE indicate that all products will default to the standby mode as delivered from the factory and we'll expand on that in our written comments.

MR. BROOKMAN: Thank you.

Mike.

MR. EDWARDS: Mike Edwards, BSH.BSH. Are you going to address the water-softening dishwashers and how that applies and which mode that falls in? I think recent interpretations have that under active mode.

MS. REICH: Okay. That is not a function that is addressed for today, but we would certainly invite comment on it because we have heard that that is a function that's somewhat newly identified as for dishwashers and we'd certainly like to consider how to classify that.

MR. EDWARDS: Under the current route of

DOE, it appears as though they're interpreting it differently than IEC. So we would --

MR. BROOKMAN: Do you want to describe that now?

MR. EDWARDS: There's a waiver now Whirlpool Corporation has and they're adding power used in the regeneration process. And others that have dishwashers with water softeners are supposed to be calculating that and submitting a waiver as well. So I think it's something that needs to be considered in the final rule to how we deal with that.

MR. BROOKMAN: Did you say how IEC is addressing that?

MR. EDWARDS: I don't think IEC treats that as active mode at this point. They say -- I think there was also secondary process --

MR. BROOKMAN: I see.

MR. EDWARDS: -- separate from washing and cleaning the dishes.

MR. BROOKMAN: And nor is it considered in any of the other identified defined modes here.

MR. EDWARDS: I'm not positive of that. I think we would need to look at that.

MS. REICH: I have a question.

MR. BROOKMAN: Yes, go ahead.

MS. REICH: Okay. I was wondering if you're aware of any methodology to measure --

MR. EDWARDS: Whirlpool came out with a methodology and the others applying for waiver are supposed to use something similar to that methodology.

MR. BROOKMAN: So that's available, that methodology?

MR. EDWARDS: I think so. I'm in the process of writing a waiver for us now.

MR. BROOKMAN: Okay.

MR. EDWARDS: And hopefully I am duplicating that.

MR. BROOKMAN: And John, just so we know, you're representing who -- pardon me, Mike, who are you representing today?

MR. EDWARDS: BSH Home Appliances.

MR. BROOKMAN: Thank you. Thank you. I apologize.

MS. REICH: I have one other request if you have or are aware of any data on percentage of units that have such a function or how often they are active -- this function is activated --

MR. EDWARDS: Well, I think that's the problem, in the U.S. there's limited data. They're normally on very high-end products and it would be my

opinion that homes that buy these dishwashers normally have home water softening systems. So the frequency of use could be very low. But I don't think there's any true data currently in the U.S. on that.

MR. BROOKMAN: So if they bought these units and they had home water softening units, then that capacity in the dishwasher that would be duplicative?

MR. EDWARDS: And they would just set it at zero which basically is non-energy --

MR. BROOKMAN: Oh, so there would be a control function for that feature?

MR. EDWARDS: You can adjust the level. You basically adjust the level for water hardness on the water softener.

MR. BROOKMAN: Huh, interesting. Wow.

(Laughter.)

MR. BROOKMAN: That's really something. Okay.

Do you have any additional questions?

MS. REICH: No, thank you.

MR. BROOKMAN: Okay. Then let's proceed.

MS. REICH: As I mentioned, there are some additional modes for each of the products that now I'm going to look at specifically and so DOE identified these functions and considered each how they would be

classified as whether they would be an active, standby or off mode.

For dishwashers, it identified two additional modes, delay start mode and cycle finished mode where delay start would be defined as the product would be activated by a timer and cycle finished mode is a state in which the product is providing a continuous status display following operation in an active or washing mode.

DOE believes that because delay start does not persist for an indefinite period that it persists for the length and duration that's set by the timer, DOE believes it's not a standby mode, but instead would be a form of active mode. And because this test procedure rulemaking is addressing standby mode and off mode power, it's not proposing amendments to the active mode portion and is not addressing the delay start mode.

However, cycle finished mode would be considered a standby mode. Under the proposed definitions DOE believes that the display on most dishwashers is provided indefinitely until the user takes some action either by engaging an on/off switch or by opening the door. So that would meet the definition that it may persist for an indefinite time.

I invite comment at this point on the establishment of inactive mode, as we discussed previously, and cycle finished mode as standby modes for dishwashers as well a determination that delay start mode -- delay start mode, I believe that is -- yeah, it's actually -- it would not be a form of standby mode. And further invites comment on whether there are additional modes consistent with the active standby or off mode definitions that have not been identified and that represent significant energy use.

MR. BROOKMAN: So just to clarify, the comment box, the third line, the last word "active" should be standby?

MS. REICH: Yes.

MR. BROOKMAN: Okay. Jennifer.

MS. CLEARY: Jennifer Cleary. AHAM agrees that delay start mode should be part of the active mode. However, we disagree that cycle finished mode is part of standby. We think that should be part of the active mode and we'll give reasons why in our written comments. We're still working on, you know, fleshing that out for you in detail.

MR. BROOKMAN: I hope I haven't confused things further. In that third line where it says, "In this comment box the determination that delay start

mode would not be a form of" it says here, "active mode" but I just confirmed with Judy, it should say "standby mode."

MS. REICH: Standby mode.

MR. BROOKMAN: So what is your comment?

MS. CLEARY: My comment is that we agree that delay start mode should be part of the active mode. Sorry, maybe I reversed what I said. And that cycle finished mode, we believe, should also be a part of the active mode. So both AHAM believes should be active mode, if that is a way to make it clear.

MR. BROOKMAN: Yes, Joanna.

MS. MAUER: Joanna Mauer. I believe in the current clothes washer test procedure rulemaking that DOE is proposing that cycle finished mode for clothes washers be considered part of active mode. And I was just wondering if you could describe a little bit whether there's a difference in functionality between the two products that would --

MS. REICH: Sure. Sure. Yes. For a clothes washer, DOE's testing observed that at the end of a wash cycle that there -- that clothes washers typically provide a(n) indication to the user for a short period of time that the cycle is complete and then drop down into a lower power state. For a

dishwasher, observations were that a dishwasher display continues indefinitely if the user doesn't take any action. So there is a different -- they operate differently. So that leads to the different classification.

MR. BROOKMAN: Mike.

MR. EDWARDS: Mike Edwards, BSH.BSH. Are there theories on how you will calculate the time of the active mode from the control being lit?

MS. REICH: I will get into the discussion of annual hours that are attributed to each mode in a moment, yes.

MR. BROOKMAN: Additional comments? Questions?

(No response.)

MR. BROOKMAN: Okay.

MS. REICH: Okay. For dehumidifiers DOE identified three additional modes, operating modes. Similarly a delay start mode. There is also an off-cycle mode and a bucket full or bucket removed mode. Delay start, again, is activating the active mode via timer, the same as it was for dishwashers. For off-cycle, this is a period in which the dehumidifier is on and is -- but has cycled off the main function by either humidistat or humidity sensor because it sensed

that the humidity level in the ambient room is at the desired set point and the dehumidifier does not have a fan or blower for operating. However, because it is sensing the humidity level and will reactivate the dehumidification process at a time when called for, according to the sensor signal, that would classify that as a standby mode.

The bucket full and removed mode is, you know, obviously as the moisture is being collected in a bucket, at some point it fills. And the dehumidifier has a switch that shuts the main operation off until the bucket is removed and emptied. So typically there is some sort of status display to the consumer that the bucket is full. So because, barring any consumer intervention, that could persist indefinitely, DOE believes that that mode would also be a standby mode.

DOE invites comment on the inactive mode, off-cycle mode, and bucket full/removed mode definitions as standby modes for dehumidifiers. And the determination, again, that delay start mode could be considered as part of active mode. And further whether there are any additional modes for dehumidifiers that haven't been identified that would represent significant energy use.

MR. BROOKMAN: Comments?

MR. BOWLEY: Brice Bowley. As far as the bucket full mode, I would consider that similarly as a cycle finished mode and would make a comment that I would consider that part of an active mode as well, similar to what was found on the clothes washers. Same comment as for dishwashers.

MR. BROOKMAN: Okay. Thank you.

Jennifer.

MS. CLEARY: It's Jennifer Cleary. We agree about delay start mode that it should be in the active mode.

MR. BROOKMAN: Okay.

(Pause.)

MS. REICH: Okay?

MR. BROOKMAN: Yes.

MS. REICH: Finally, for cooking products, there are three modes that DOE identified other than the ones previously discussed, including a delay start mode, a cycle finished mode, and a Sabbath mode. As we've already gone through the definitions of delay start and cycle finished. Sabbath mode is a feature that is for function that is provided for households that follow kosher practices. The primary feature in Sabbath mode is that it disables the automatic shutoff

capability. It overrides that so that food can be held for long periods of time so that, no, it doesn't violate the stipulations that would occur on the Jewish Sabbath.

So, again, delay start and cycle finished modes would be proposed to be classified as shown. Sabbath mode, because it's primary function is to hold food warm or potentially even prepare it at lower temperatures, it would -- or DOE believes it would be considered part of active mode. And therefore, for the purposes of today's rulemaking, is not proposing amendments to define or measure energy consumption in that mode.

Again, I would like to invite comments on the establishment of inactive mode and cycle finished mode as standby modes and that the determination that delay start mode and Sabbath mode would be part of active mode for cooking products. And, again, if there are any additional modes that haven't been identified and represent significant energy use, I would like to invite comment on that.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary. AHAM agrees that delay start mode should be considered active mode and believes that cycle finished mode should also be

considered in the active mode and we'll provide more details in our written comments.

MR. BROOKMAN: Do you have a comment on Sabbath mode?

MS. CLEARY: Not at this time.

MR. BROOKMAN: Thank you.

Okay.

MS. REICH: There are additional modes that are defined within the FDIS version of IEC 62301 that DOE has considered also. Two of them, the first being network mode, the FDIS defines that as any product mode where the energy-using product is connected to the main power source and at least one network function is activated such as reactivation via network command or network integrity communication, but the primary function is not active.

The FDIS also includes a definition for disconnected mode where essentially the main power source is removed or interrupted to the product.

DOE is not proposing to incorporate definitions or methodology for these modes into the covered test procedures. For network mode DOE is not aware of any products or any dishwashers, dehumidifiers, or conventional cooking products that currently have a networking function incorporated in

them and therefore is unable to determine appropriate methodology for testing energy use in that mode.

For disconnected mode, because there is no energy use at all, DOE believes that this mode is irrelevant for the purposes of measuring standby and off-mode power.

We certainly invite input on whether dishwashers, dehumidifiers or conventional cooking products are available with a network mode and whether definitions and testing procedures for network mode should be incorporated in the test procedures. Also, DOE invites comment on the appropriate methodologies that would be used to measure energy use in network mode for those products as well as data.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary. AHAM agrees that there are currently none of these products on the market that have network mode and that there's no way to gather data. There's also not a test procedure currently for measuring that energy and so, you know, we agree with DOE's determination not to act at this time. However, you know, once data does become available, we would, you know, urge you to act and we will certainly be glad to provide data once we have it on this topic.

MR. BROOKMAN: Thank you. Joanna.

MS. MAUER: Joanna Mauer. So we're also not aware at the current time of any of these products that are on the market that have a network function. Although certainly at least for dishwashers looking at manufacturing and marketing materials we'd certainly expect to see dishwashers come onto the market very soon with network functionality. And so we're concerned if this additional energy consumption is not captured in all the test procedure. And we certainly recognize the challenge of developing a test procedure at this point in time that captures the energy use of a product when it's actually connected to a network. But we understand that it's likely that products with network capability will likely be consuming some amount of power continuously regardless of whether they're actually connected to a network. And this power consumption may in fact represent the majority of the energy consumption associated with the network functionality.

So we encourage DOE to capture any of the standby energy consumption associated with network functionality in the inactive mode test. And I would imagine that it would be captured in the inactive test unless the network capability would actually be

disconnected somehow when the product was being tested.

We would also encourage DOE to establish a definition for inactive mode that is sufficiently broad so as to capture any of this standby consumption that's associated with a network functionality that a product would consume regardless of whether it's actually connected to a network.

MR. BROOKMAN: Okay. Thank you.

Jennifer.

MS. CLEARY: This is Jennifer. I just want to respond a little bit because I think AHAM might have a slightly different view as to if network mode were to be incorporated by DOE where it should go. AHAM does not support including it as a standby or off mode. The network mode and the energy use associated with smart appliances would be a distinct mode and should be treated as such. And, you know, we would be glad to provide more comments should that be a consideration that DOE has.

MR. BROOKMAN: Okay. Thank you.

Is network mode -- well --

(Laughter.)

MR. BROOKMAN: I won't even go there. Okay.

Okay. Additional comments on this subject?

(No response.)

MR. BROOKMAN: Okay.

Wes Anderson.

MR. ANDERSON: DOE is interested in AHAM giving us some of your thoughts as to how to distinguish the difference between the two or the three different modes or the various modes that we have sort of from a principles perspective, how you look at it, all of the products, and then if you want to do specific products, that's great. That would be even better. And also, maybe if you can explain the differences -- if we choose to make it as a standby and you say it should be active, but it's being captured, why the distinction is such a concern.

MS. CLEARY: I just want to make sure I understand what you're looking for so we can provide it for you. You're not talking with regard to network mode now, you mean generally all of the modes we've been discussing this morning?

MR. ANDERSON: Well, the first half of my question was about the modes, how you determine what's what. I'm sure you have a philosophy or a principle behind that or --

MR. BROOKMAN: Something like a taxonomy or a hierarchy, a descriptor; right?

MS. CLEARY: Uh-huh.

MR. ANDERSON: He went to private school, I went to public school.

(Laughter.)

MR. BROOKMAN: No, I went to public school.

(Laughter.)

MR. ANDERSON: And my other question is, if you can explain to me the difference -- where you differ with DOE, why you feel that's a better capture of that energy usage.

MS. CLEARY: Yeah, we absolutely will provide that.

MR. BROOKMAN: Good. That's good. Okay. Thank you. Other comments on this before we move on?

(No response.)

MR. BROOKMAN: Okay.

MS. REICH: I saw on the agenda we're supposed to take a break, but I think we should probably just press on.

MR. BROOKMAN: If we could just do one more segment.

MR. ANDERSON: What we were going to do is see if there were any questions during the break.

MR. BROOKMAN: Okay.

MR. ANDERSON: Do you want to go another section and then take a break and then we'll see --

MS. REICH: Totally up to you, however you would like to do it.

MR. BROOKMAN: Yesterday we did one of these meetings and Eric was able to field the questions real time as they came on via the web and pass them to us for consideration. So there's a section in the agenda for that. We'll see if we need it. Okay.

MS. REICH: The next section now gets into a discussion of the actual methodology that is proposed for measuring standby mode and off-mode energy. DOE proposes test procedures for measuring the power consumption in the products in all standby and off modes. So these proposed amendments include provisions for measuring energy use in cycle finished mode for dishwashers and conventional cooking products as well as off-cycle and bucket full or removed mode for dehumidifiers.

So what I'm going to step through next are the provisions from IEC 62301, first edition, that DOE is proposing to use for the measurement methodology.

The first is paragraph 5.3.1 that has different measurement techniques depending on whether the power consumed by the product is stable or

unstable. Pardon me. And this is not -- the stability is not referring to the power supplied to the unit. It's the power that would be consumed by the unit. So the definition for stability is that the power consumption does not vary by more than 5 percent from a maximum level during a five-minute measurement period. And if that's the case, then the product would sit for five minutes to stabilize and then the power could be measured at the end of an additional time period of at least five minutes. This can be an instantaneous power measurement. It does not have to be an average measurement.

However, if the power is unstable, meaning that it varies by more than 5 percent from the maximum during a five-minute period, then the provision would require that power be measured for or averaged over a duration of at least five minutes. Or if there is an operating cycle, that one or more complete cycles be included in that measurement period.

DOE wants to make clear that these provisions don't preclude manufacturers if they feel it's appropriate to test products with a longer stabilization period or a longer measurement period, these just provide the minimum values.

On certain products including some

dishwasher and conventional cooking products, these products may be equipped with a feature that automatically powers down or, for example, dims a display, after a certain period of user inactivity. And for those units DOE is proposing to incorporate the provision that's discussed in Section 5.1 note 1 of 62301 which is that the standby and off-mode tests would be conducted after that power level has dropped to its low power state.

Testing has been performed to determine how long it typically takes for a product to get into that low-power state. And so during its tests of all of these products typically the higher power state is found to persist for less than 10 minutes of user inactivity. And DOE believes that as a result the product likely spends most of its time at the lower power state and therefore that level would be most representative of actual use.

DOE recognizes it's possible that this was based on its test sample, but some products may in fact have a longer duration, higher-power state so that they would exceed the five-minute stabilization and five-minute test period that's specified in 62301.

DOE noted that in the CDV version of 62301 it updated that specification, increased both the

stabilization period and measurement period so that now the stabilization period would be thirty (30) minutes and the measurement period would be no less than 10 minutes.

This was significantly changed in the FDIS revision. It establishes an overall test period of not less than 15 minutes, but provides quite detailed requirements on potential extension of that test period. In particular, if the mode being tested is not cyclic, that is power consumption varying repeatedly over a certain period of time, the first third of the period of the measurement period would be considered the stabilization period and the remaining two-thirds would be looked at to determine -- to test whether the power is stable. And that this total duration of the test period would be extended potentially continuously until those criteria reached up until a maximum of three hours.

For modes that vary, but don't cycle regularly, they would follow the same test procedure, but the total test period has to be at least 60 minutes. It can't be as low as 15 minutes.

And, finally, the FDIS has requirements that cyclic modes use an initial stabilization period of at least 10 minutes and that the power must be averaged

over at least four complete cycles.

DOE considered both of those requirements, both the -- or all three, the existing methodology in the first edition, CDV, and the FDIS versions. DOE believes that it has tentatively concluded that the CDV version for these products would lead to the most accurate, repeatable and enforceable power measurements. It would be -- it would potentially cover those situations where to ensure that the product went from the higher power state to the lower power state, but the FDIS version is so broad and is potentially open to interpretation about how long the test period should be extended that DOE believes that the provisions in the CDV that the 10 minute -- I'm sorry, the 30-minute stabilization and the 10 minute test period would be the most repeatable and enforceable, repeatable from manufacturer and test lab among each other.

So, the provisions are intended to allow all products to reach the lower power state, including allowing sufficient time for displays that dim to go to their lower intensity. DOE recognizes that some products can alter the display setting via user input to increase how long they stay at that higher power state.

DOE believes, however, that most consumers will maintain a default setting and is not proposing any additional provisions to address a possibility that the consumer could extend that higher power state.

I'd like to invite any comments on the suitability of using the default settings in testing standby energy consumption and on any methodologies that it can account for consumer actions that might increase energy use and data on repeatability of these test procedures.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary. Based on paragraph 5.2 of IEC 62301, the FDIS version, AHAM agrees that the appliance should be tested at the factory or default settings and that where there are no indications for those settings, the appliance shall be tested as shipped.

MR. BROOKMAN: Okay. Thank you.

Other comments on default settings? And we're okay on line; right? No questions so far.

Let me encourage those of you that are joining us via the web, we are trying to answer questions if you have them. So, feel free to ask them.

MS. REICH: Okay.

MR. BROOKMAN: Do you want to take a break now?

MS. REICH: I think we -- I'm fine proceeding on, if everybody else is.

MR. ANDERSON: I think we need a break.

MR. BROOKMAN: Let's take a break.

I think let's take a break. It's now almost 10:25, so let's take a 15-minute break which means we will resume at 10:40. I think all of you that are used to being in this building --

(Brief recess taken at 10:23 a.m.)

(Meeting resumes at 10:45 a.m.)

MR. BROOKMAN: We had a request during the break to see if we could identify those individuals that are calling in via the web. And I've asked Eric to read off their names so we know who is on the line.

MR. JONES: Yeah, we have 13 people on the webinar. We have Ashley Byrd, Phisha Condu (ph), Daniel Young, Dennis Pointer, Derek Dao, J. B. Hoyt, Jonathan King, Junghung Kong, Lincoln Billings, Martin Vink, Max Welband, Roger Hetler, and Steve Harquist.

MR. BROOKMAN: Okay. Thank you.

So we're going to resume with Judy Reich. And I believe we're on slide 38.

MS. REICH: Actually I'd like to, before we go to slide 38 want to step back to the last request for comment.

MR. BROOKMAN: Yes.

MS. REICH: I made a note to myself that not listed on here was a -- to request input on the measurement and stabilization periods. And I forgot to mention that previously and just wanted to provide an opportunity if anybody had inputs on that topic to allow them to speak now.

MR. BROOKMAN: Measurement of stabilization what?

MS. REICH: The measurement period and stabilization period, the 10 minutes and 30 minutes.

MR. BROOKMAN: So comments on that?

Yeah, Joanna.

MS. MAUER: Joanna Mauer. I actually had a -- I was wondering if I could ask a question going back to the section on definitions.

MS. REICH: Uh-huh.

MS. MAUER: And specifically, DOE is proposing that for cycle finished mode that that would only include power consumption of a continuous display, I believe. And I was just wondering, I guess, partly in the testing that DOE has done on

products whether you've seen additional energy-consuming features in cycle finished mode such as a fan in an oven or have you -- are you aware of other energy-consuming features that would be present in cycle-finished mode?

MS. REICH: I don't believe so based on the range of power levels that were measured for the various products. I don't think that there were anything other than the typical display indicator lights or display graphics that were associated with that.

MS. MAUER: And I think we'd encourage DOE to adopt a broader definition for cycle-finished mode that would capture any energy consuming features that are present at the end of an active cycle to capture anything that's either in products today or that might be introduced in the future just so if additional features are introduced they're captured in that cycle finished mode.

MR. BROOKMAN: Thank you.

MR. BROOKMAN: Natascha.

MS. MILESI-FERRETTI: Yes, Natascha Milesi-Ferretti from NIST. I can say that leading up to the 2003 rulemaking NIST tested some dishwashers and one of the products that we tested did have a fan that

would continue to run after the dishwasher had indicated that the cycle was finished -- clean.

MR. BROOKMAN: Thank you.

Okay.

MS. REICH: Okay. Moving on now I will discuss the proposed amendments to address the test room conditions, specifically ambient temperature.

IEC 62301 provides for an allowable range of ambient temperatures for standby and off mode testing, specifically 73.4 degrees Fahrenheit plus or minus nine degrees. All of the -- pardon me -- the dishwasher and dehumidifier test procedures include ambient temperature requirements that fall within that range. So that under the existing conditions that manufacturers are already testing to, they could, if they chose to, conduct standby and off-mode tests simultaneously with active mode tests on separate units so that they could do it in the same test room.

For conventional cooking products, those two temperature ranges overlap. The test procedure, the DOE test procedure, requires an ambient temperature of 77 degrees plus or minus nine (9) degrees. So if a manufacturer was interested in conducting testing in the same room then they would need to ensure that in order to meet both criteria that the ambient

temperature would fall between 68 and 82.4 degrees Fahrenheit.

We would like any input you may have on the appropriateness of these proposed ambient temperature ranges for each of the products geared towards the possibility of allowing manufacturers to conduct standby and off-mode testing either separately or in the same test room under the less stringent ambient conditions specified in IEC 62301.

MR. BROOKMAN: Jennifer.

MS. CLEARY: Jennifer Cleary. AHAM actually believes that the DOE's more stringent ambient test room temperature should be used in all cases because they fall within the IEC range and they will provide a more accurate, repeatable and reproducible result. And that comment applies to dishwashers and dehumidifiers. We're still working on cooking products where the range does not entirely fall within that IEC range. So we'll provide more comments on that in our written comments. But for the other two products where the range does fall completely within the IEC range we think that should just be used for both cases.

MR. BROOKMAN: Okay. Thank you.

Yes, Brice.

MR. BOWLEY: I had a comment regarding the ambient -- actually the ambient humidity for the dehumidifiers being that if we're measuring an off-cycle mode and if it's measured to the DOE temperature, humidity the humidifier -- dehumidifier will likely never turn off because of the humidity in the room. So there needs to be additional -- if the off cycle were to be tested as a standby mode, there needs to be separate test conditions specified and a test procedure on how to set up the unit to, you know, actually evaluate an off cycle.

MR. BROOKMAN: Okay. Did you get that?

MS. REICH: Yes.

MR. BROOKMAN: Okay.

MR. ANDERSON: I have a question. This is Wes Anderson, Department of Energy. Where AHAM disagrees with our temperature ranges, are you are still in flux with that determination, we would also request that if you could explain if given those different ranges would that show any significant additional energy expended by that appliance.

MS. CLEARY: Okay. We'll think about that.

MR. BROOKMAN: I just want to make sure -- did you finish what you had to say, Brice?

MR. BOWLEY: Yes, I did.

MR. BROOKMAN: Okay. Thank you.
MS. REICH: Okay. Yes, and I understood -- I believe something similar was done for room air conditioners for exactly that same sort of reason to ensure that --
MR. BOWLEY: I think this is a little different situation -- oh, I understand.
MS. REICH: To ensure as it's cycling off the conditions -- ambient conditions were such that it would be sure to stay in the mode that you wanted it while you were measuring it.
MR. BOWLEY: Okay. Thank you.
MR. BROOKMAN: Yeah. Okay. Now I got it. Okay.
Additional comments, Mike?
MR. EDWARDS: Mike Edwards, BSA. In response to Wes' question, if the test was conducted at higher temperatures which would be allowed under the new proposal, it could impact the rate the food -- and the rate that it falls off the dishes and the sensor decisions. I don't know that it would. We would have to test to determine that, but it's a possibility.
MR. BROOKMAN: Okay.
MS. REICH: Maybe I can ask to clarify that.

The broader temperature range is not being proposed for all testing conditions. It's not being proposed for active mode. So this would just allow the broader condition for the purpose of standby mode. Okay.

MR. EDWARDS: Okay. Thanks for that clarification.

Specifications for Test Methods and Measurements for Standby and Off Mode Testing

MR. BROOKMAN: So moving on then. The next topic involves the power that is supplied to the unit and within IEC 62301, first edition, it contains test voltage and frequency specifications but defers to any existing conditions in the external -- in an external standard that would be referencing it. So, when the test voltage and frequency are not so defined, the first edition states that the power supply shall be 115 volts plus or minus 1 percent; and 60 hertz plus or minus 1 percent.

The three test procedures,-- DOE test procedures, under consideration do provide specifications for the power supply, but not all of the detail that's provided in the first edition. So the current dehumidifier test procedure specifies the rated frequency, but it doesn't put a tolerance on that, an allowable frequency range.

And the current conventional cooking products test procedure does not specify any power supply frequency requirements at all.

So for dehumidifiers DOE is proposing to add that the allowable frequency range is plus or minus 1 percent and the power supply frequency would then be added to the cooking products test procedure as 60 hertz plus or minus 1 percent.

Now we get to the situation of whether the power consumption is unstable. DOE first notes that it doesn't specify closely the test method when the measured power is not stable, that is the IEC 62301. It states that if the power varies over a cycle, which is defined as a regular sequence of power states that occur over several minutes or hours, the period selected to average power or accumulate energy shall be one or more complete cycles in order to get a representative value.

DOE is aware that on certain products, particularly conventional cooking products that may incorporate a clock on the display, would potentially have a regular sequence of power states if the display varies as a function of the time that's being presented on the display.

So DOE conducted an investigation to

determine how that power might vary over a cycle, so that additional clarification can be added to the provisions from IEC 62301. DOE tested seven conventional cooking products and it showed that that standby power, the power consumption can vary by as much as 44 percent depending on the time that's being displayed, the minimum being the time of 1:11 and the maximum being a time of 12:08 based upon a seven-segment digit for each numeral in the time.

So DOE realizes that this can be a significant variation in power consumption and has previously addressed this issue in the microwave oven rulemaking and which would have a similar kind of variation in clock power. And DOE conducted various tests to different methods for measuring average standby power when the clock time is varying. And the idea was to determine whether there are methodologies that balance the need for representative power measurement with the test burden that would be required of the manufacturer.

The gold standard is to measure over a full 12-hour test period because then all possible variations in the illuminated digits and thus all of the different power levels would be captured and would be captured on a representative weighted basis.

DOE also investigated an 18-point method where 18 different times were set on the clock and the power consumption at each one of those times was measured. Eighteen represents the possible combinations or possible number of segments in the time display that can be illuminated. And so DOE's analysis weighted the power that was measured at each one of those points by how often that particular number of segments would be illuminated over the 12-hour period.

And then finally DOE investigated a ten-minute method which would average the power starting with a starting clock time of 3:33 because for that 10 minutes the distribution of segments that are illuminated would be comparable to the same distribution during the full 12-hour test period.

So I'm going to present the results that were obtained for the microwave oven testing because DOE believes that this represents a comparable situation for conventional cooking products.

The tests that DOE conducted were based on 11 units that had three different types of displays, a liquid crystal display, a light emitting-diode and a vacuum fluorescent display, VFD.

And so the first column displays the average

standby watts that were measured over the full 12 hours and then the two -- the two sets of columns to the right of that show both the power that's measured and how that varies by -- or by what percent that measurement varies from the 12-hour reference value. And it can be seen that the 18-point method comes quite close. It's less than 1 percent variation among all of the units from what was measured over 12 hours.

The ten-minute method also came close. There is one data point that you can see on the lower right that was somewhat out of line, but DOE believes that's not representative. It was a condition in which the unit that was being tested was subject to power -- supplied power that was very different than 120 volts. So discounting that, DOE observes that the ten-minute method produces results that are within 2 percent of the results that are obtained from the 12-hour methodology.

Because this represents a significantly lower test burden, DOE is proposing that that ten-minute method be used in which the measurement period would occur when the clock was displaying 3:33 and would continue until a clock time of 3:42.

The test procedure additionally allows a stabilization period prior to that measurement period

because it's recognized that the very act of setting the clock display can put a product into a higher power state. The display may be illuminated brighter and so that if you didn't wait for it to drop to the dimmer or lower power state, it wouldn't be a representative measurement. So the proposed amendment would actually require the time to be set to 3:23, a ten-minute stabilization period be observed and then once the clock reached 3:33, the ten-minute measurement period would commence.

So, DOE believes that this methodology would supersede the measurement of clock energy consumption that's currently provided in the conventional cooking product test procedure because this ten-minute test period would account for all standby-mode and off-mode energy consumption including the clock energy consumption which would be incorporated currently into the annual energy consumption and energy factor calculations.

MR. BROOKMAN: I think we'll just pause there. Questions or comments on this before we move on?

MS. REICH: Actually, I think that's the next -- oops, sorry.

(No response.)

MR. BROOKMAN: Okay. Then, let's just proceed.

MS. REICH: Okay. There is a possibility that if a methodology -- an alternative methodology from the 12-hour measurement was used, that a product could be designed or programmed so that the behavior of the display was altered when it detected the test conditions. For example, if it were the 18-point measurement, it could, at those 18 specific times the display could dim or it could simply, if it's the ten-minute method, it could be dimmed between 3:33 and 3:42. So for that reason DOE is proposing that manufacturers have the option at their discretion of conducting either the full 12-hour test or this abbreviated ten-minute test or both.

However, for the purposes of enforcement, DOE reserved the right to use either or both tests with the requirement that the test results between the two must agree within 2 percent. If they don't agree within 2 percent, then the 12-hour test would be used to determine compliance.

We have an extraneous view on the screen here. Is it okay if I -- right there? Okay. Thanks.

So, again, we're seeking comment on whether that ten-minute methodology is an acceptable

alternative to the 12-hour test and DOE is requesting comment on the requirement that the results that would be obtained under this ten-minute methodology would agree within 2 percent with the 12-hour test results. And if that criteria is not appropriate, whether there's information on a more appropriate criteria.

MR. BROOKMAN: Jennifer.

MS. CLEARY: I just want to -- Jennifer Cleary. I just want to start with comments on the ten-minute measurement methodology. AHAM supports that. I think, you know, DOE is going on the right path there. We might state though that after setting the clock, the time that it takes to go back to the lowest power consumption mode may vary for each product just based on product design. And so it may make more sense to set the clock to 3:33 minus the number of minutes needed to return to the power -- lowest power consumption mode. Each manufacturer will readily be able to know how much time that is for their unit. And so that may be a preferable method and we can certainly provide more detail on that in our written comments.

With regard to the DOE using one or both, the 12-hour method or the ten-minute method, and requiring each to be within 2 percent of each other, I

think we just have a question about enforcement -- how enforcement testing would go. So would DOE, for example, take into consideration if the manufacturer chose to use the ten-minute method and DOE chose to use the 12-hour method, would DOE be taking into account that inherent 2 percent difference when considering enforcement action?

So, for example, if the results were 2 percent more than the energy standard, would that be taken into account that that could be because of the difference in the methods that were used?

(Pause.)

MR. ANDERSON: This is Wes with DOE. That's a question you might want to go ahead and pose it to us and we could address that with the enforcement committee and let them see where they stand on that.

MS. CLEARY: Okay. I think it's really critical because as we are entering, you know, a time when there will be increased enforcement testing, higher energy efficiency standards, for many products, it's important that the regulated industry is able to be as precise as possible and able to match what DOE will be doing for enforcement purposes. And so I think clarity on that point is essential. And, you know, if that won't be taken into consideration

effectively that means that everyone is going to need to use the same test and that may put unnecessary burden, costs, et cetera, on these tests.

So we would certainly say that whatever you expect the manufacturers to do during testing should be mirrored with what DOE is doing in its enforcement testing and that's, you know, provide the most certainty and clarity for all parties involved.

MR. BROOKMAN: Eric Stas.

MR. STAS: Eric Stas, DOE. Thanks for that comment. But I wanted to point out one thing that the enforcement folks, you know, wanted to stress is that if the manufacturers are doing both a ten-minute test and a 12-hour test, your batch of testing that you submit for certification compliance purposes has to be from one test. Like either the ten-minute or the 12-hour, that there shouldn't be mixing and matching of units from the two tests for the results you submit.

MS. CLEARY: Right. And I think we understood that. The question is just, if you submit10and DOE uses 12, that's where the --

MR. STAS: I know.

(Simultaneous conversation.)

MR. STAS: That's a separate point I wanted to make.

MS. CLEARY: Okay. Great. Thank you.

MR. ANDERSON: Actually a submission should make explanation of how the test procedure was done, an explanation as to what method was used should accompany any submissions. So that would clear up a lot of questions. This is Wes with the Department of Energy.

MR. BROOKMAN: Thank you. I have received a comment from someone who is participating in the webinar and this is from Max Wilband, "LG Electronics would like to comment that this analysis in energy consumption metric should only be valid for seven segment clock displays. Other displays may exist which have a screen of pixels where the energy consumption of the display would be dependent on factors such as the font of the numbers displayed.

So it's another take on how the display might be configured.

MS. REICH: Okay. Thank you.

MR. BROOKMAN: Yes, Joanna.

MS. MAUER: Joanna Mauer. I think I'll just comment that I think the DOE proposal seems to be reasonable in terms of trying to limit manufacturer test burden, but also in the same time, you know, trying to prevent any potential gaming through the

proposal for the enforcement testing, I think it seems to balance those two concerns. And I was also wondering whether any of the manufacturers might be able to comment on whether or why a product might need more than 10 minutes of a stabilization period. Whether that ten-minute stabilization period would be adequate or whether products would need more time?

MR. BROOKMAN: A moment ago Jennifer said that different products have different requirements, different -- right?

MS. CLEARY: Right. Which didn't necessarily mean more.

MR. BROOKMAN: Yeah.

Okay. Let's proceed.

Calculation of Energy Use Associated with Standby Mode and Off Mode

MS. REICH: The next section is fairly meaty. It is the calculation of energy use associated with standby and off mode. And in this section I'm going to talk about estimates that are made for how long each product spends on an annual basis in each mode coupled with typical power levels associated with that mode. How that then contributes to all of the energy use that the product uses on an annual basis.

I think I want to emphasize as I'm starting

to go through this that the calculation of energy use in each mode is done to determine the relative importance of various modes. It doesn't necessarily mean because all modes are presented that DOE is proposing that all of them be necessarily measured.

Okay. For dishwashers the current energy conservation standard is based on an average annual energy use. There is also an additional metric that is defined and was the basis of previous standards which is an energy factor or energy used per dishwasher cycle. Based on the requirements of EISA DOE is proposing to incorporate the energy used in standby and off mode into the calculation of the estimated annual energy use. So what DOE has done in the following analysis is to determine the annual standby and off mode energy use expressed in kilowatt hours per year that could be incorporated into that existing metric.

As we discussed previously there is a standby power calculation currently in the dishwasher testing procedure and it results in a calculation of annual standby energy consumption. DOE is proposing to maintain the current calculation of active mode hours per year, based on average wash cycle time, multiplied by the existing provision of 250 cycles per

year, and to distribute any remaining non-active, non-washing mode hours between the appropriate standby and off modes. And I think maybe this will help make it a little more clear.

Let's talk about active mode first. The test procedure, again, assumes that there are 250 dishwasher cycles used annually and back in the early stages of the last dishwasher standards rulemaking in the advance notice of proposed rulemaking in November of 2007, DOE estimated that a typical cycle time for a dishwasher is one hour. So, therefore there would be 215 hours per year associated with that active washing mode.

DOE found very limited consumer --

MR. ANDERSON: Excuse me, Judy, this is Wes of DOE. I might have misheard or you mean 215 --

MS. REICH: Did I -- I'm sorry.

MR. ANDERSON: I just want to, for the transcript --

MS. REICH: Okay. 200 -- okay. Yes, thank you. It's 215 hours.

MR. ANDERSON: I might have heard 250. I don't know. I'm not sure.

MS. REICH: Okay.

MR. ANDERSON: I am losing my hearing.

MS. REICH: So there was very little data that DOE was able to find on consumer usage patterns that would allow it to estimate the number of hours spent in the other modes. There was a study or data developed by the IEC that looked at a very small sample. I think it was 79 households in the UK and Germany and Italy and it looked at not just active mode, but also delay start and cycle finished mode. And so some of these estimates were based upon that. And the hours that were spent -- I'm sorry, the power levels in each mode for the active mode were based upon an equivalent baseline energy factor for a dishwasher under the current standards with a .65 energy factor, results in a 1540 watt typical power use per cycle. So the total annual energy associated with the washing would be 331 kilowatt hours.

The other power levels were those that were measured in DOE's test sample. There were 14 dishwashers that were subjected to standby and off mode power tests. And you can see the 1.91 for delay start watts, 1.56 watts for cycle finished and up to .69 watts for either off or inactive mode.

So you can see the relative contributions of each of these to the total annual energy use if these were integrated together.

Some of them are very low, almost negligible contributors to annual energy use.

MR. BROOKMAN: Joanna.

MS. MAUER: Joanna Mauer. Just a couple of quick questions. The typical power for the off and inactive mode, is the .69 watts, is that the maximum power consumption of all the units?

MS. REICH: In the test sample; yes, correct.

MS. MAUER: And for delay start and cycle finished those are average power consumption across the units that were --

MS. REICH: Yes. Yes. And the reason -- actually, maybe I had better verify this. The range is provided in off and inactive because in off mode the unit could have zero watts. And I believe that the .69 may be an average of those that went into inactive mode. I don't think that it was the maximum value.

PARTICIPANT: It's not the full range, yeah.

MS. REICH: That's right. So the .69 would be comparable for those units that are in active mode, it would be an average of the units that had it similarly to what's done with delay start and cycle finished.

MS. MAUER: Okay. And then is it possible to comment at all on the range of measured values for the different modes that you saw in the testing how much variability there was?

MS. REICH: We do have that data available.

MS. MAUER: Okay.

MS. REICH: I don't have that now --

(Simultaneous conversation.)

MS. REICH: Yes, absolutely.

MS. MAUER: Okay. Thank you.

PARTICIPANT: You would have to ask for that directly in a written request and we could see what we could do.

MS. MAUER: All right. Thank you.

MS. REICH: Okay. So because DOE is considering or proposing to consider delay start as part of active mode, it is not proposing with these test procedure amendments to define or measure energy consumption associated with delay start. However, because DOE recognizes that is a certain amount of annual energy use that should be captured by the test procedure and because it notes that the power levels in delay start are comparable to those in the off and inactive mode, DOE is proposing that although it's not requiring a tester to measure the power in delay start

mode, it would allocate the hours that the dishwasher would spend in delay start mode to the hours that are accounted for in the inactive and off modes. So that bumps up the total annual hours for off and inactive mode to 8,308. And so what it's doing is it's using the measurement in off and inactive mode as a proxy for the delay start energy use.

And for dishwashers that don't have a cycle finished mode, DOE would propose to allocate the 237 hours associated with that mode to, again, the off and inactive mode hours because anything then outside of the active washing mode would be considered off and inactive.

DOE doesn't have a lot of information on how many dishwashers spend time in off mode, how many spend time in inactive mode, but it believes that because that's typically associated with a type of controller supplied on the product, if it has electromechanical controls it likely will go to off mode. If it has electronic controls, it would likely go to inactive mode. But if there are products that have both available, DOE estimates or has tentatively assumed that the hours would be split equally between the two. So it would divide those hours in half for each mode.

The methodology that DOE is proposing to come up with the annual energy use that's associated with the inactive, off and cycle finished modes would be to measure the wattage in the particular low-power mode and then use the allocated hours, multiply those each one by the hours that are allocated to that mode and then add up the results and make sure it's expressed in kilowatt hours. And so that gives on an annual basis the energy associated with those modes.

Now, going back to -- going back to this chart DOE notes that delay start mode -- I'm sorry, cycle finished mode is a very small contributor to annual energy use. And so, again, to potentially reduce test burden DOE, rather than requiring manufacturers to measure both cycle finished and off and inactive mode, DOE is proposing that it's a reasonable representation to allocate the hours in cycle finished mode to off and inactive mode. So the only measurement that would be made would be in off or inactive mode and that would allow a single measurement to be used as a proxy for all of the non-active hours.

I'm at this point going to move on to dehumidifiers. I don't know if we want to stop here for comment on dishwashers.

MR. BROOKMAN: Let's see if there are any comments on dishwashers. Anything? Jennifer.

MS. CLEARY: I think this is one area where we start to get into questions about the data that DOE is relying on. And here at least there is some data with the IEC study that was used to allocate hours. But I think it's questionable whether that data is really representative of consumer use in the United States which is what the test procedure is designed to representative of. You know, products may not be the same, for example. So, you know, it's something and that's better than nothing, but really how valid is it for action here is a question that we have.

MR. BROOKMAN: And furthermore you don't know of any additional data sources that would be targeted on the U.S.?

MS. CLEARY: Not at this time. You know, we'll certainly look into it. We, of course, want to help DOE where we can to provide data if we can. But, again, DOE, if there is no data, in here at least there's something, but, again, we question its validity.

MR. BROOKMAN: Okay. Mike.

MR. EDWARDS: This is Mike Edwards. Did I understand that the hours that you put up there are

the actual hours that you're planning to use or would we calculate in real life usage the inactive hours?

MS. REICH: The test procedure is proposed that the hours would be fixed in the test procedure, that the numbers provided are intended to be representative of all dishwashers how much time they would spend in that mode.

MR. EDWARDS: I would think that there's more data out there. When we calculate standby power now, we do it by measuring the number of active hours, the cycle time and then it's multiplied by 215 cycles per year. So I think everything else could be inactive based on what I'm understanding.

MS. REICH: That's the alternative approach, yes.

MR. EDWARDS: Okay. And I think dishwasher cycle times are longer than one hour now, in most cases.

MS. REICH: Is that information that you could provide in a comment what a typical cycle --

(Simultaneous conversation.)

MR. EDWARDS: -- the comment, but we know cycle times are getting longer. I don't know if I could tell you what the cycle times are at this point.

MS. REICH: Okay.

MR. BROOKMAN: Yes, Joanna.

MS. MAUER: Joanna Mauer. I guess a comment first on the proposal for allocating hours for products that have both electronic controls and a mechanical on/off switch. I think it's definitely appropriate to allocate a portion of the total off and inactive hours to off mode for those products with mechanical switches and we would certainly like manufacturers to have an incentive to actually provide switches so that the products can be turned off.

We are just a little concerned about the potential for gaming if there's no specification as to where that switch needs to be placed, or, you know, there certainly could be a switch placed in some -- placed on the product that's clearly not intended for consumer use and that therefore would never actually be in the off position. So I think that we would encourage DOE to just make some kind of specification as to the placement of that switch either on a front panel or that it clearly be intended for consumer use in order for half of those hours to be allocated to off mode.

And then in terms of the alternative proposal to allocate all the hours to off and inactive mode and not to separately measure cycle finished

mode, I think we just want to be careful to think about not just products that are on the market currently, but what may be introduced in the next five or seven years given that the test procedures are not revised very often. And our concern is that if the power consumption and cycle finished mode is not measured, then there's no incentive to reduce power consumption in that mode and that there may be additional features that manufacturers introduce that consume additional energy that wouldn't be captured if that energy consumption isn't measured. I think we're seeing an example of that in clothes washers where in cycle finished mode the clothes washers are being introduced with periodic tumbling or fan energy and things like that may become more common in products. So I think we'd encourage DOE to develop a test procedure that actually measures that energy separately.

MR. BROOKMAN: And James Battaglia has a comment.

MR. BATTAGLIA: James Battaglia (off microphone). Oh, sorry. James Battaglia. I just want to clarify something that Judy said. For the derivation of the standby hours it's not a fixed number for dishwashers, it's based on the average

measured cycle length for the active mode. So you subtract the active mode hours that you measured from the total number of hours per year to get the number of standby hours.

MS. REICH: Okay.

MR. BROOKMAN: Thank you.

MS. REICH: Thank you.

MR. BROOKMAN: Okay. Good.

MS. REICH: Let's see, for dehumidifiers, the current metric used for the standards is an energy factor which is the ratio of the amount of moisture removed from the air per kilowatt hour of energy use. DOE is proposing to incorporate the energy used in standby and off mode into this metric based on the number of hours that a typical dehumidifier spends in each mode. And, again, this was a case where there is limited data available on usage patterns. There were several studies looked at that ranged from, I think the earliest was 1998, and the most recent was 2006. These studies provide a range of estimates on an annual basis for active mode operation, anywhere from 875 to 4,320.

DOE is proposing to use, as the basis of this analysis, the information that was developed by AHAM. And it had a range of estimates and DOE is

considering the midrange to probably be the most representative. And DOE is proposing to use that dataset because this was developed in consultation with manufacturers and so DOE believes that they probably understand in lieu of actual field study measurements, but the manufacturers probably have the best understanding of how these products are actually used.

So on the basis of the AHAM data, DOE proposes that 1,095 annual hours be attributed to active mode.

However, unlike some other products, dehumidifiers can actually spend some time unplugged a percentage of the year. And so therefore there's no energy used at all. They would not be in standby or off mode. There is no information that DOE could locate on how much time a dehumidifier typically spends unplugged, but the various surveys that were mentioned on the last page indicated that there is no active mode operation in the months of November to March and that there are few active mode hours of operation in April.

So for that reason DOE assumes that in the November to March timeframe that they are unplugged for the entire time and that for half of April a

dehumidifier would be unplugged leading to a total of 3,984 hours that are just removed from the calculation because there's no energy use at all.

So, since there are 8,760 hours per year, subtracting out the 1,095 active mode hours and 3,984 unplugged hours leaves that 3,681 hours that would be allocated to things other than active mode, to operating modes other than active mode.

So, DOE examined or estimated the typical hours that a dehumidifier would spend in the bucket-full or removed mode and in delay start mode. The bucket-full/removed mode hours were based on a product that had a 25 to 35 pint per day capacity for moisture removal which is based on the distribution of shipments, that this is the predominant dehumidifier product class and that the analysis was based on an energy factor of 1.35 which is not in fact the current standard. That standard will not go into effect until October of 2012. So the explanation is a little off. But the number of hours that are calculated aren't affected because the hours are based on how much -- what moisture is removed and that's not impacted by whether it's a 1.2 or 1.35 energy factor.

DOE examined various products and came up with a calculated average of 18.7 pints as the typical

bucket size in that product class and also made the assumption that consumers are not likely to empty a dehumidifier bucket more than once per day.

For delay start mode hours, DOE's observation in its research was that 19 percent of products offer this feature and with the lack of consumer usage data made a preliminary estimate that half of these units would have consumers using that feature and that for those consumers that did use delay start mode, they'd use it for 10 percent of the times of the days that dehumidification is called for.

Further, because the maximum delay start on products with that capability was found to be 24 hours, DOE made a preliminary estimate that the average time that consumers would select when they chose to operate with delay start would be half of that, would be a 12-hour delay.

With those assumptions DOE was able to estimate the typical hours spent in the delay start in bucket full or removed mode and therefore would allocate the remaining hours to the off-cycle or inactive mode; the remaining hours that are not unplugged or active mode. The delay start, bucket full and removed mode in off cycle or inactive mode hours -- I'm sorry, not hours, power, those levels

were based upon DOE measurement of a test sample of 13 dehumidifiers; and the active mode typical power for this product class was derived from the analysis that was completed for the last standards rulemaking for dehumidifiers. And the information for that is in the 2007 ANOPR.

So based on that, on the far right-hand side we see the annual energy use associated with each mode. Again, you can observe that the active mode is by far larger than any of the other non-active modes. And similarly to what was discussed for dishwashers because delay start mode is being assumed to be part of active mode, DOE is not proposing to require that mode to be measured. But, again, the power consumption, the power levels there are comparable to the value in the off-cycle, inactive, and off mode and therefore DOE is again allowing those or proposing those hours to be allocated into the off-cycle, inactive and off mode again as a proxy for that delay start energy use.

Okay. And that would bump up the hours for the off-cycle, inactive, and off modes to 3,024.

Because not all dehumidifiers have the same capabilities, they don't all -- they aren't all able to operate in the off-cycle, inactive and off mode and

for the same reason before as the dishwashers, the lack of any further information on how to divide them, DOE is proposing to divide them evenly if a dehumidifier has the capability for operating in two or three of those modes.

The methodology for calculating the annual energy use associated with standby and off modes is the same as was presented for dishwashers, which is that the watts measured in the standby or off mode and the allocated hours would be multiplied together. All of those contributors for the different possible modes would be summed and that would be expressed in kilowatt hours per year.

DOE, again, to offer the possibility of reduced test burden is considering an alternative approach in which the off-cycle, inactive, and off modes would be the only modes measured and that the hours for bucket full and removed mode would be rolled up into the first set. So everything other than the active mode hours would be allocated to that last set.

MR. BROOKMAN: So let's pause and take comments here. Brice.

MR. BOWLEY: Yes, Brice Bowley. First of all, I appreciate you looking at reducing test burden with all the standby modes. One, the bucket full, I

wanted to make a comment on that. Having the opportunity to pull many units from the field and look at -- basically look at them for reliability one of the things we found that we had not expected was that about 50 percent of the units were actually connected to a drain. So when they're connected to a drain, there's no bucket full or bucket removed, they operate continuously. So I had not expected it to be as high as 50 percent, but that is actually what we had found.

MR. BROOKMAN: At the break can you tell me how to do that.

MR. BOWLEY: Yeah.

(Laughter.)

MR. BOWLEY: But anyway, of the hours allocated, based on that 50 percent, I think it's actually closer -- you know, assuming all the other calculations are correct, I would say it's half of what you had calculated, based on that.

MR. BROOKMAN: Okay.

MS. REICH: Okay. Thank you.

MR. BROOKMAN: Good.

(Simultaneous conversation.)

MR. BOWLEY: I can provide that in writing, yes.

MR. BROOKMAN: That's good. Okay.

Other comments? Jennifer.

MS. CLEARY: I'd like to echo the comments here that I made in the beginning of our meeting today. Certainly understand that DOE is trying to carry out its statutory mandate, but it still needs to act on a reasonable basis. And I just want to read from page 75307 of the Federal Register.

"DOE is not aware of any reliable consumer usage data on the number of hours per year dehumidifiers spend in delay start and bucket full or removed mode. In the absence of such data DOE estimated the time spent on these modes in the manner described below." And then the manner described below consists of a series of unsupported estimations as I, you know, think we saw in the slides. So this really -- there's no data for all of these points here. And DOE should not be acting and cannot act without that data. It's arbitrary and unreasonable to do so. So, you know, you asked me to point out a specific situation, I think that this may be one of the more glaring places where there's no data for what I just described, and that’s very problematic.

MR. BROOKMAN: Okay.

MR. ANDERSON: This is Wes with the Department of Energy -- Wes Anderson with the

Department of Energy. Given that that's -- the data issue is stated as a problem and we have asked for input from manufacturers who we thought would have this information, we -- and given that we are required legally to establish a standard, I'm asking AHAM to either look at our -- the way we determine our number, maybe -- do we need to explain that in more detail how we determined these -- how we came to our assumption? Because it's -- you know, would that be satisfactory? Or do we just have to have a myriad of data to satisfy your comment?

MS. CLEARY: I think that there needs to be data. And we'll provide more detail in our written comments. And certainly if we have anything to share we will. I mean, we aren't going to criticize if there's some way that we can help, we absolutely will. But if DOE doesn't get the data that it seeks, that doesn't give it the freedom to estimate. And, you know, it should attempt to collect the data itself or to ask others who might have it. You know, for example, if the manufacturers don't have it, there may be other third parties who have it. And, of course, we would look for that as well and provide it to you where we can. Or the other option is to recognize that there is no data and to refrain from taking an

arbitrary action.

MR. ANDERSON: Well, I would argue against that it's arbitrary. I mean, we have a test procedure -- a testing method that we use to come up with these numbers and we base it on test -- an experiment. So, I mean, it's not like we just kind of say, okay, this is kind of this and this is kind of that. So I would like to reiterate would DOE's explanation of how it derived -- it came up with these numbers and we put that out for public comment, then manufacturers can comment on if it were not going in the right direction.

MR. BROOKMAN: Eric Stas.

MR. STAS: Yeah, and I would add from the slides that Judy put up aren't the assumptions based on data from AHAM itself?

MS. REICH: There are quite a few assumptions that were DOE estimates. Because -- specifically because there was no data available.

MR. STAS: And that factors into this and the data is from AHAM; correct?

MS. REICH: Some data is, yes.

MS. CLEARY: And I wasn't actually referencing that. And the portion I read was a separate issue that wasn't based on any data.

MR. BROOKMAN: Okay. Okay. So additional comments on this segment?

Yes, Joanna.

MS. MAUER: Judy, could you just describe -- maybe you described this earlier, but what inactive mode refers to for a dehumidifier or kind of what the function is or when a dehumidifier is in inactive mode?

MS. REICH: That would be if -- if it is just sitting with a display on, maybe an indicator light on, it is not at a point where it would be -- that it would have a dehumidification level set, or a humidity target set, so that it would be either active or off cycle. It would be plugged in, but it wouldn't be simply activated.

MS. MAUER: And do you have any sense of whether that's common in the field for products to be in that or do manufacturer have any comments on whether they'd be in --

MR. BROOKMAN: Brice.

MR. BOWLEY: Well, I guess I'm a little unclear on the inactive for dehumidifiers as well. To me there seems to more of an off mode which if there's no external remotes that I'm aware of for dehumidifiers. If there was an external remote there

might be an inactive, but as it is, if it's plugged in -- well if it's plugged in and turned on, then it's either in active mode or it's cycling off. So I really don't --

MR. BROOKMAN: Like when the bucket is full.

MR. BOWLEY: Yes.

MR. BROOKMAN: But there's still a little LED light -- there's a little green light that kind of shows you the bucket -- or red light that shows the bucket is full.

MR. BOWLEY: Yes, usually.

MR. BROOKMAN: Yeah.

MR. BOWLEY: But as far as the inactive, I don't know exactly what that would be on the dehum. I mean, I understand DOE has studied it and apparently they have modes they would classify as inactive, but I'm really not aware of what that would be.

MS. REICH: Okay. So I think what I'm hearing is that you would allocate hours when it's plugged in. It would either be operating in active mode or in off cycle mode.

MR. BOWLEY: If it's plugged in and turned on it's either in active or off cycle.

MS. REICH: Okay.

MR. BROOKMAN: James.

MR. BATTAGLIA: James Battaglia. I think we saw -- in our test sample we saw a few dehumidifiers with remote controls.

MR. BOWLEY: So there is some. So it's basically a dehumidifier with a remote control. It would be inactive.

MR. BATTAGLIA: Yeah, that's one case that we saw. I mean, there might be other cases that still fit that definition, but that's the --

(Simultaneous conversation.)

MR. BOWLEY: But as far as the products you looked at --

MR. BATTAGLIA: Right.

MR. BOWLEY: Okay.

MR. BROOKMAN: Okay. Other comments on these dehumidifier issues?

(No response.)

MR. BROOKMAN: Wes is suggesting we take a very short break just to stand up and move around for five minutes. This is rather dense material. We're going to keep going for a while. We have about almost 20 page of additional stuff to go through, maybe 15. So let's just break for five minutes. Don't go far. It's chilly, move around a little bit and we'll resume shortly.

(Brief recess taken at 11:49 a.m.)

(Meeting resumes at 11:55 a.m.)

MR. BROOKMAN: We're going to try and keep going right along here. For those of you that are listening via the web, the room here at the Forrestal Building is probably 68 degrees or in that general range. It's a little nippy in here. And we're trying to boost the heat. So those of you that are comfy in your offices or at home --

So let's resume and we're going back to Judy Reich.

MS. REICH: Okay. So we have finished with dishwashers and dehumidifiers. The final products are conventional cooking products. So they are not the subject of energy conservation standards at this time. But historically in analyzing them, the metric that's been used and has been defined in the test procedure is energy factor, which is the ratio of annual cooking energy output to the annual energy input. And DOE is proposing to maintain this metric incorporating standby and off mode energy use into it rather than an annual energy use metric.

So, we'll talk about the usage patterns and power consumption in these modes that DOE looked at on an annual basis, but recognized that it's going to be

rolled in essentially on a per-cycle basis.

Ah, let's see, for conventional ovens, DOE investigated the typical time and energy consumption associated with active mode as well as the other modes that have been identified, namely the Sabbath mode, delay start mode, cycle finished mode, and off and inactive mode. Again, very limited data on usage patterns. For Sabbath mode, DOE was able to determine, able to locate some survey data that was developed by the United Jewish Communities on the number of U.S. households that keep a kosher home and on that basis as well as determining the number of hours that somebody who followed kosher practices would be using that feature, came up with an average of 8.9 hours that a typical oven spends in Sabbath mode.

For delay start mode, this was an area where DOE did not have information at all but assumes that for those products that have it, that 50 percent of consumers use it for 5 percent of cycles. And that they would program it for typically a 12-hour day. This is a preliminary estimate based on half of the maximum delay start time that's possible.

And, just, you know, sort of as a reality check DOE notes that 12 hours is roughly the time that

would be between if somebody were setting up a cooking process in the morning for dinner being available when they came home.

Cycle finished mode is purely a DOE estimate. It was assumed to be five minutes per cooking cycle. Typically, I think, you know, people don't leave food for hours in the oven when they're done. So DOE estimated five minutes. And so you can see for delay start and cycle finished mode they wind up with 61 annual hours and cycle finished mode was 18. That left 8,461 in off and inactive mode because subtracting out 211 hours that were assumed from the previous standards analysis to be associated with active mode.

DOE determined typical power levels by testing 12 conventional ovens. For active mode that was based on measurements for a baseline efficiency, electric self-cleaning oven. The annual energy use on the far right-hand side shows very small contributions from Sabbath mode, delay start mode, and cycle finished mode and still relatively small from off and inactive.

Actually I want to correct myself. I made a note here. The 211 hours comes from RECS data, the Residential Energy Consumption Survey from 2005. And

that data indicates that 211 hours are spent in active cooking mode.

Because DOE proposes to define delay start mode and Sabbath mode as part of active mode and not standby or off mode, it is not proposing to measure the energy consumption in either of them, but instead would allocate the hours that a product would spend in those modes to the inactive and off mode in the case of delay start and into the active mode hours for Sabbath mode.

For those units that don't have any cycle finished mode, DOE would roll those hours into the off and inactive mode also. For the same reason that we've already talked about that it's unlikely that a product would have capability for both off and inactive mode, because that's typically associated with the type of controls it has, but if it has electronic controls and a mechanical on/off switch, both modes are possible and DOE proposes to evenly divide the off and inactive mode hours between the two modes.

I won't talk about that same methodology as has already been discussed several times, but how to come up with the annual energy use, and that, again, as an alternative for reducing the test requirements

that because of the relative -- relatively comparable power levels in cycle finished mode to those in off and inactive mode that the cycle finished mode hours could be rolled in so that only a single off and inactive mode measurement would need to be made.

(Pause.)

MS. REICH: That was it for ovens.

For cook tops it's a similar situation as for ovens. Although, interestingly, the Sabbath mode is a little different for cook tops because the allowable or required functionality in Sabbath mode is different. So you will see the typical power is much higher. And that's because for a cook top the requirement is that the controls, that the heating elements or burner cannot be adjusted up or down during the Sabbath period. So it requires for Sabbath compliant products that they be set at some low level that is -- you know, a consumer would feel safe leaving it on continuously. And so DOE estimated that that power level would be approximately 25 percent of the typical power during a normal cooking process.

But even so, even with that higher power level, because of the very small percentage of U.S. households that do observe the kosher practices that on average the annual energy use associated with

Sabbath mode is still quite small.

Also want to point out that DOE is not aware of any delay start or cycle finished mode for cook tops.

DOE believes that the Sabbath mode is part of an active mode and so is proposing to allocate the Sabbath mode hours into active mode hours. And for the same reasons we've heard that if it has the capability for both off and inactive mode it would -- DOE proposes to split those hours evenly. And, again, going through and calculating an annual energy use associated with off and inactive modes.

And, by the way, in the next section I'll discuss the calculations that are made that would actually integrate an annual energy use into the energy factor for a cooking product.

And finally, for conventional ranges, these are essentially because they have an oven and a cook top together, much of this information would be comparable to the two products. The only difference or the only thing I would want to point out is, again, for Sabbath mode, because of the inherent difficulties or greater difficulty in using a cook top as opposed to an oven during a Sabbath period that it's likely that a consumer with a range that had a Sabbath mode

function in the oven would use that for the cooking process.

Here the typical powers were based on DOE tests of 21 conventional ranges and that the active mode power is simply assumed to be the sum of the oven power and the cook top power, the typical levels.

So, again, delay start and Sabbath mode hours would be allocated appropriately to either the inactive off mode for delay start and active mode for Sabbath hours. And, again a methodology for units without cycle finished mode, those hours would just go into off and inactive mode. And if they have the capability for both off and inactive, the hours would be split evenly.

And, finally, I apologize for the repetition, but this is the same methodology to calculate from the measured watts what the annual energy use in kilowatt hours would be for each mode and then adding them up. And then the possibility of an alternative approach, a more streamlined approach that would put all of the cycle finished mode hours into off and inactive so that a single measurement would only be necessary.

So, I think we've already commented on dishwashers and dehumidifiers. Any similar comments

on cooking products referring to the allocation of annual hours and test burden as well as the alternative methodology to allocate annual hours in each mode?

MR. BROOKMAN: Jennifer.

MS. CLEARY: Thanks. This would just be another area where we would point to a lack of data in many areas and I think that you drew them out here and we'll cull out specific ones in our written comments. But the comments continue in this area as well.

MR. BROOKMAN: Okay. Thank you.

Joanna.

MS. MAUER: Joanna Mauer. Just to reiterate a couple of general comments. For all products I think the case where you have electronic controls plus a mechanical on/off switch, we just encourage DOE to make some kind of specification regarding the placement of that mechanical switch. We would also encourage DOE to develop a test procedure that actually measures the energy use in all the different modes that have been identified such as cycle finished mode just to avoid any potential loopholes in the future where some nontrivial energy-consuming feature wouldn't be captured in the test procedure.

I also had kind of a general question

regarding how the hours were estimated for delay start and cycle finished mode. Are those hours -- or does that estimate of hours include products that don't have, for example, cycle finished mode so that it's kind of a weighted average that includes products that by definition have zero hours in cycle finished mode, for example?

MS. REICH: No, the estimate is intended to be for those products that have that capability. And if the product doesn't have it, the hours would be put into the off and inactive mode.

MS. MAUER: Okay. And I think that's an appropriate methodology. It sounded to me in the Federal Register notice that it may have included all products, but I can -- I'll look at that again --

MS. REICH: We can confirm that.

(Simultaneous conversation.)

MR. BROOKMAN: So then final comments on this because we're going to move on.

(No response.)

MR. BROOKMAN: Measures of energy consumption.

Measures of Energy Consumption

MS. REICH: Okay. So the regulatory requirement is that the test procedures shall be

amended to include standby and off-mode energy consumption into the overall energy efficiency descriptor for each covered product. And this is what EISA amended EPCA to require.

So DOE, for each of these products, examined the existing measures of energy consumption to see whether standby and off-mode power could be integrated into the existing metric to form a single combined or integrated metric. And in doing so DOE first notes that the test procedures for dishwashers and cooking products already incorporate at least some form of standby power into the existing metric. For dishwashers there is a standby power measurement and for conventional cooking products there is a requirement to measure clock power. So, that provides evidence that those metrics can be expressed as an integrated metric once all standby and off-mode power is accounted for.

So to detail that, for dishwashers, the measure of standby power is already included in the efficiency descriptor that's the basis of the current standard which is estimated annual energy use or EAEU. And DOE notes that the magnitude of standby and off-mode energy use is such that integrating it would be measurable in changes in standby power, it would

produce a measurable difference in EAEU so, therefore, would factor into any standard setting process, but is not so great that it would overwhelm the effect of variations in active energy -- active-mode energy use, how that would contribute to the EAEU.

So, therefore, DOE believes that an integrated metric is technically feasible and is proposing amendments that would fully account for standby-mode and off-mode energy consumption.

So the proposed amendments would require measuring an addition standby mode beyond the standby mode that would currently be defined, the cycle finished mode, and would require the measurement of off mode. And it would also revise the existing definition of standby mode.

So these three additional modes, the inactive, off, and cycle finished modes may result in energy consumption levels slightly higher than what the current test procedure would result in. But the proposed amendments would clarify that this new measure would not be required to be used by manufacturers to determine compliance with existing energy conservation standards and would not be required for that purpose until the dishwasher standards are updated to take into account the

effective -- whoops -- of standby and off-mode energy use.

There is also an estimated annual operating cost calculation in the CFR and DOE is proposing to adjust that also for the additional cost associated with standby and off-mode energy use.

Because energy factor is not currently used as the basis of any standards, DOE is not proposing to amend the calculation of EF so leaving that metric as is.

And finally, for reasons that -- really more for clarification and to ensure consistency when these measurements are made, DOE is proposing to ensure that all the rounding instructions are provided for the final values of energy factor, EAEU, and water consumption in the test procedure.

Question?

MR. BROOKMAN: Yes, Amanda.

MS. STEVENS: Stevens. Could you just very briefly -- I know we're trying to move on -- clarify what the rounding instructions are?

MS. REICH: Let's see, for EAEU it would require that the value be rounded to the nearest kilowatt hour, for water consumption it's gallons per cycle to the first decimal place, and energy factor I

think that's two decimal places.

MS. STEVENS: Clarify when the rounding should occur? I'm asking for a point of clarification because ENERGY STAR also included some rounding clarifications and I just want to make sure that we're --

MS. REICH: It's the final calculation.

MS. STEVENS: The final calculation. Okay.

All right. Thank you.

MS. REICH: Now, for dehumidifiers, the test procedure currently does not have any measure of standby or off-mode power. It's only looking at active-mode energy use when calculating energy factor. This is, again, liters of water removed per kilowatt hour and it is on the basis of a 24-hour test cycle. The measurements and estimates that DOE has made lead it to conclude that the -- that rolling in the standby and off-mode energy use is technically feasible because it is a significant enough value to have a noticeable impact on the standard metric, but it's not so great that rolling it in would essentially wash out all the effects of efficiency in active mode.

So DOE is proposing to create a new integrated metric -- integrated energy factor, IEF, in which the energy use in standby power would be

allocated. The annual energy use in standby power would be allocated to those associated with a 24-hour period that the test cycle covers.

And this is the equation that is proposed, just to make that a little clearer, IEF is the liters of water removed during the test divided by the sum of the active mode energy use during that 24 hours and then the energy use -- the annual energy use in standby and off mode that is scaled by the period of 24 hours which is the test cycle divided by the total number of active mode hours.

And for rounding instructions DOE is proposing that that final IEF value be rounded to two decimal places.

For conventional cooking products, there are -- within the energy consumption measure and energy factor calculation there are various types of energy consumption that are measured and calculated. They're listed here, test energy consumption, annual cooking energy consumption, the annual energy associated with pilot lights which in 2012 will become zero, annual self-cleaning energy consumption for ovens and for ovens also annual clock energy consumption and all of those get rolled up into a total annual energy consumption.

As I mentioned previously, there is no performance-based standard for cooking products, conventional cooking products. There is a prescriptive preclusion of standing gas pilots. But historically DOE has used energy factor as the basis of its analysis for potential standards, so DOE considered rolling any standby and off-mode use into that energy factor metric.

And because already, for example, in the pilot energy consumption and the clock energy consumption, these are forms of standby power, DOE believes it's meaningful to incorporate other types of standby and off-mode energy use into it. So it's proposing integrated metrics.

For conventional ovens, the integrated annual energy consumption would be the sum of the contribution from standby and off mode as well as the primary cooking energy use and annual self-cleaning energy consumption.

For gas ovens, this would be the same thing with the addition of annual secondary cooking energy which I believe is the electrical energy associated with the cooking process in addition to the gas primary cooking energy.

The integrated energy factor then for ovens

would be the annual useful cooking output, that's the energy that's used to -- that's delivered to the food load, divided by this integrated annual energy consumption.

For gas ovens, because it has both the gas portion and the electrical portion, the annual use for cooking energy output would be divided by the sum of the gas and the electric energy consumptions.

And I think this was a question that was posed earlier, how to handle multiple conventional ovens and similar metrics are being provided for the case where there's, say, a double oven.

Conventional ranges, it's simply the sum of the two components. So integrated annual energy consumption would be the integrated annual energy consumption for the cook top plus the one for the oven. Plus the overall range standby mode and off-mode energy consumption. It too would have an integrated energy factor. It's defined as the annual useful cooking output divided by the sum of the integrated annual energy consumption for the two components.

MR. ANDERSON: Excuse me, Judy. This is Wes from the Department of Energy. We are now -- we skipped ahead to slide 74, for those on line, so you

can just --

MS. REICH: I'm sorry, did I miss --

MR. BROOKMAN: Maybe you missed 76.

MR. ANDERSON: Oh, I'm sorry, we're on 76.

(Simultaneous conversation.)

MS. REICH: Okay. I apologize. Okay.

MR. BROOKMAN: So we're on slide 76.

MS. REICH: Okay. Let me retrace then. So for conventional cook tops the integrated annual energy consumption is the annual standby energy use plus the useful cooking energy output divided by the cooking efficiency. That's how the cooking portion of the annual energy consumption is obtained.

For gas cook tops, it's the same approach with standby and off mode energy use in the numerator and -- I'm sorry, being summed with the annual consumption for gas consumption for cooking and the annual energy consumption of the gas standing pilot for the time being.

Okay. For integrated energy factor, for electric cook tops, it's the useful cooking energy output divided by the integrated annual energy consumption and that's the same actually for electric and gas.

MR. BROOKMAN: And I think you've gotten

most of 77 covered. So maybe you can just summarize that.

MS. REICH: Okay. It's basically for conventional ranges. It's just the sum of the two parts, the cook top and the oven.

MR. BROOKMAN: Right.

MS. REICH: So, in addition to creating these new integrated energy factor measures DOE is proposing to update to amend the annual energy cost calculations to include the cost associated with the standby and off mode energy use.

In terms of rounding instructions, again, the annual operating cost would be rounded to the nearest dollar and the rounding requirements for IEF would be to three significant digits.

DOE would invite comment on these integrated energy factor metrics for dehumidifiers and conventional cooking products. Also invites comments on the proposed amendments to modify estimated annual energy use and estimate annual operating cost metrics for dishwashers, and actually it's also costs for cooking products, and to incorporated the revised measurements of standby mode and off mode energy consumption.

MR. BROOKMAN: Comments here? Joanna.

MS. MAUER: In terms of the integrated metric for conventional cooking products, I'm trying to think about how this relates or is similar to the situation with microwaves. And my understanding is that for both conventional cooking products and microwaves DOE analysis in the past has shown that there's maybe not significant energy savings, potential or not cost effective savings potential for active mode energy use. But now we have a rulemaking for standby energy for microwaves and so we're going to have a separate standby metric for microwaves. And so I guess my question is, if we have an integrated metric for conventional cooking products, does that eliminate the possibility in the future of a standard for standby energy use for conventional cooking products?

MS. REICH: The statutory requirement is that the metric must be integrated if it's technically feasible. And for microwave ovens the active mode portion was eliminated on the basis of inherent problems in the measurement. It was not the separate metric for standby power is not being proposed because there are no opportunities to improve active mode efficiency. It's that the portion, if it were integrated the active mode portion was fundamentally

flawed and was removed. So there is no metric to roll it into anymore. So therefore it must be a separate prescriptive requirement. So it's not the same situation with the cooking products, and, again, it's this EISA requirement that a single metric must be defined unless it's technically infeasible to do so.

MR. BROOKMAN: Additional comments on this series of measures?

(No response.)

Compliance with Other EPCA Requirements and Impact of the proposed Amendment on EnergyGuide and ENERGY STAR

MS. REICH: Okay. Getting towards the end here. The next section discusses compliance with other EPCA requirements.

We've hit on this quite a bit in terms of test burden in discussing the methodology and there is a requirement under EPCA that any test procedures prescribed or amended under this section shall be reasonably designed to produce test results which measure energy efficiency, energy use, or estimated annual operating cost of a covered product during a representative average use cycle or period of use and shall not be unduly burdensome to conduct.

In sum DOE believes that the proposed

amendment satisfied this requirement. First of all it believes it's representative, the IEC Standard 62301 is an international standard used to measure standby power and off-mode power. And DOE believes it will produce power consumption measurements that are representative of an average use cycle. DOE also believes that the test methods and associated equipment would not require manufacturers to make major changes and major investments in their facilities or purchase -- or extensive investments in new equipment in order to make the measurements.

EPCA also directs DOE to consider IEC 62087, "Methods of measurement for power consumption of audio/video and related equipment." But this is basically just not applicable to the products that are considered today. So DOE has fulfilled the requirement to consider it, but has determined it's inapplicable.

And here is the section of EPCA as amended by EISA that requires this single metric, if it's technically feasible. It says it must be integrated into the overall energy efficiency, energy consumption, or other energy descriptor for each covered product, unless a test procedure already accounts, fully accounts for standby mode and off-mode

energy use or if such an integrated method is technically infeasible. So for the reasons that in each case there's either already measures of standby and energy use there, or because -- and/or because the magnitude of the energy use that would be newly measured is measurable with an integrated metric but doesn't overwhelm the existing active mode metric, DOE believes that in all cases it's technically feasible to define single integrated metrics.

And these would be for dishwashers, the EAEU and the estimated annual operating costs and for dishwasher -- or dehumidifiers, integrated energy factor, and conventional cooking products, an integrated annual energy consumption and integrated energy factor.

EPCA requires that DOE consider how the amendments to the test procedure would affect compliance with existing standards. Although the revisions to the dishwasher test procedure, because that already includes a measure of standby power, there would be some slight revision to the calculation of EAEU, DOE doesn't believe that that would be significant. And also the fact DOE would provide clarifying language that the new provisions would not be required to determine compliance until new

dishwasher standards became effective.

For dehumidifiers an entirely new metric is being defined, the IEF, and energy factor which is the basis of the existing standards would not be affected. Therefore, the test procedure amendment would have no effect on compliance.

And then finally for cooking products there are no standards -- performance standards for them and so the definition of integrated metrics has no effect. There's nothing for it to affect.

MR. BROOKMAN: Yes, Natascha.

MS. MILESI: I have a clarifying question. With regard to the delay of compliance, I understand for EAEU, but what about EAOC; is that also delayed reporting of the costs that include standby?

MS. REICH: I believe that would be similarly delayed because it would be based on the provisions that would be calculating EAEU.

MS. MILESI: But it would not affect the standard? It would not affect the product's qualification or meeting the minimum energy requirements?

MS. REICH: That's right. Yes. Well, that would be based on EAEU, the compliance requirement and so that new calculation would not be required until

such time as a new standard. And that was why DOE was proposing to keep the existing standby power methodology under a new name in the test procedures specifically because that portion will be used until the new standards come into effect.

MR. BROOKMAN: Amanda.

MS. STEVENS: I've got a question. As I was looking at the Federal Register notice and the test procedure, for dishwashers I saw a date of May 31st, 2011, so there's different sets of calculations for product manufactured before then and then on or after that date and I just wasn't sure, what's that date in reference to?

MS. REICH: Yeah, that's a very good question. May 31st --

MS. STEVENS: It says, may 31st, 2011, because I thought it would be a new standard --

(Simultaneous conversation.)

MS. STEVENS: Yeah, so in the Federal Register notice it's 75321 so if you go down to the dishwasher section there, for the calculations that kind of sets forth two kinds of calculations broke out by that date which didn't --

PARTICIPANT: (Off microphone.) Can you give me the page number?

MS. STEVENS: Yes, sorry, it's 75321.

MR. BROOKMAN: Well, let's let them take a peek and see if they can come up with the answer while we're taking other questions or comments. Eric.

MR. STAS: We have to check into this, but one thing that might have happened was when the document got sent to the Federal Register perhaps they accidentally inserted a date when they should have been saying some date before the final rule for test procedures get finalized and after, or something. So I'm not sure if these dates belong in here yet.

MS. STEVENS: Okay. Okay.

MR. STAS: That's one possible thing.

MS. STEVENS: Okay.

MR. STAS: And Judy, I was going to ask you, I think we talked about this before, for some of these cost calculations --

MS. REICH: Uh-huh.

MR. STAS: -- whether that was something that we said was going to be reported. You know, I agree about the part about not be used for standards compliance purposes, but we were saying other purposes that the costs might be reported, is that --

(Simultaneous conversation.)

MS. REICH: I thought they were subject to

the same time requirements that whatever date that the annual energy use gets updated so would the annual operating costs. Because, you know, there's a desire to have them -- those two metrics be meaningful in comparison to each other.

MR. STAS: I think we need to go back and check what's in here on that point.

MS. REICH: Okay.

MR. STAS: But it's definitely the case for the standards compliance purposes.

MR. BROOKMAN: Other questions on this segment?

(No response.)

MS. REICH: Okay. All right. The last section is the impact of the proposed amendment on EnergyGuide and ENERGY STAR.

So, for EnergyGuide, this is a program that is administered by the Federal Trade Commission. And for dishwashers because the EAEU and EAOC and water consumption would not be modified until the new date of standards, the relative metrics that are used for both EnergGuide and ENERGY STAR wouldn't be impacted at all at this time.

For dehumidifiers there is no EnergyGuide labeling program currently and the ENERGY STAR

certification or qualification requirements are based on energy factor which is left alone in the amended test procedure. So that would be unaffected.

For conventional cooking products, there is no EnergyGuide or ENERGY STAR requirements, so, again, no impact.

MR. BROOKMAN: Okay.

MS. REICH: And that wraps up the discussion.

MR. BROOKMAN: That's all the presentation material. And Judy has put up there the closing slide that references the numbers that are relevant. I'm going to return to Wes to closing in just a moment. But as we promised at the outset, now is an opportunity for anybody that wants to do so, to make closing remarks to describe other issues that haven't been covered fully in the course of the proceeding today. Yes, James.

MR. BATTAGLIA: I just want to confirm what Eric was saying about that May 31 date, it should have been 180 days after the publication of the final rule. And I guess the Federal Register just entered it in --

MR. BROOKMAN: They just inserted something.

MR. BATTAGLIA: 180 days after publication of the NOPR, I guess.

MR. BROOKMAN: Okay. Thanks for that, James.

Yeah. Okay. Closing remarks, final comments on today's meeting?

(No response.)

MR. BROOKMAN: I see none. And so from my perspective I'll thank everybody that joined from the web.

I hope this was constructive and useful for you. I hope you were able to follow okay. And back to Wes for closing remarks.

Conclusions and Closing Remarks

MR. ANDERSON: I would like to also thank you guys for helping us out with the new webinar process. Although we only got one question, we look forward to doing this more often and maybe more interactively down the road.

Again, thank you for coming out in cold conditions outside, as well as in, and braving the environmental conditions here.

To submit your comments, remember our comment period ends on February 15th and remember that's pretty much something like 45 days from publication. So, generally DOE has -- I mean, we accept comments at any time and we would like to

reiterate that comment period ends on February 15th. We would be less likely -- the later you are, the less likely your comments would affect the final rule.

You can submit your information to Brenda Edwards as it is stated on slide 86 by mail or courier or at the e-mail address. And please put -- and also when you submit your comments reference the docket number and/or the RIN. That's all I have.

Do you have any other comments?

(No response.)

MR. ANDERSON: So I officially close this discussion and I look forward for your comments.

Thank you very much. Goodbye.

MR. BROOKMAN: Thanks to all who participated.

(Whereupon, at 12:40 p.m., the meeting was adjourned.)